A-E CERCLA/RCRA/UST STUDIES AND REMEDIAL DESIGN

CONTRACT NUMBER N68711-00-D-0005

Finding of Suitability to Transfer for Parcel A (Revision 3)

Hunters Point Shipyard
San Francisco, California

DS.A057.14385

FINAL

October 14, 2004

U.S. Department of the Navy
Base Realignment and Closure Program Management Office West
1230 Columbia Street, Suite 1100
San Diego, California 92101-8571

TETRA TECH, INC.

Contract Number N68711-00-D-0005
Delivery Order 0057

Final

FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A (REVISION 3)

Hunters Point Shipyard
San Francisco, California

October 14, 2004

Prepared for

DEPARTMENT OF THE NAVY
Base Realignment and Closure
Program Management Office West
San Diego, California

Prepared by

TETRA TECH EM INC.
1230 Columbia Street, Suite 1000
San Diego, California 92101
(619) 525-7188

Julia Vetromile, Installation Coordinator,
Registered Chemical Engineer

DS.A057.14385

CONTENTS

ATTACHMENTS

FIGURES

TABLES

ACRONYMS AND ABBREVIATIONS

µg/L	Micrograms per liter
ABM	Abrasive blast material
ACM	Asbestos-containing material
AEC	Atomic Energy Commission
AFA and Golder	AFA Construction, Inc., and Golder Associates
AST	Aboveground storage tank
BCT	BRAC Cleanup Team
BRAC	Base Realignment and Closure
CaDHS	California Department of Health Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CIWMB	California Integrated Waste Management Board
CLP	Contract laboratory program
DoD	U.S. Department of Defense
DTSC	California Department of Toxic Substances Control
EBS	Environmental baseline survey
ECC	Environmental Chemical Corporation
ECP	Environmental condition of property
EPA	U.S. Environmental Protection Agency
FOST	Finding of suitability to transfer
GMP	Gas monitoring probe
HHRA	Human health risk assessment
HLA	Harding Lawson Associates
HPS	Hunters Point Shipyard
HRA	Historical radiological assessment
IR	Installation Restoration
IT	IT Corporation
JAI	Jerrold Avenue Investigation
LBP	Lead-based paint
mg/kg	Milligrams per kilogram

ACRONYMS AND ABBREVIATIONS (Continued)

Navy	U.S. Department of the Navy
NEPA	National Environmental Policy Act
NMOC	Nonmethane organic compound
NPL	National Priorities List
NRDL	Naval Radiological Defense Laboratory
NWT	New World Technology
PCB	Polychlorinated biphenyl
ppm	Parts per million
PRC	PRC Environmental Management, Inc.
RASO	Naval Sea Systems Command, Radiological Affairs Support Office
RI	Remedial investigation
ROD	Record of decision
RWQCB	California Regional Water Quality Control Board
SFDPH	City and County of San Francisco Department of Public Health
SFRA	San Francisco Redevelopment Agency
SI	Site inspection
SSPORTS	Supervisor of Shipbuilding and Repair, Portsmouth, Virginia, Environmental Detachment
TCRA	Time-critical removal action
Tetra Tech	Tetra Tech, Inc.
TPH	Total petroleum hydrocarbons
TtEMI	Tetra Tech EM Inc.
UCSF	University of California, San Francisco
USC	*United States Code*
UST	Underground storage tank
VOC	Volatile organic compound

1.0 PURPOSE

This revised finding of suitability to transfer (FOST) documents environmental findings for the property referred to as Parcel A at Hunters Point Shipyard (HPS) (formerly Naval Station Treasure Island, Hunters Point Annex) in San Francisco, California. This revised FOST (Revision 3) has been prepared because the boundaries of Parcel A have been modified. In addition, this FOST includes updated information about radiological clearance, off-parcel issues, and other activities relevant to Parcel A. The organization of and sources of information analyzed for this FOST report are discussed below.

1.1 FOST REPORT ORGANIZATION

This FOST report is organized into the sections below.

- Section 1.0, Purpose, discusses the purpose of the FOST, the organization of the FOST report, and the sources of information analyzed.
- Section 2.0, Property Description, provides a brief description of HPS and Parcel A.
- Section 3.0, Regulatory Coordination, discusses Parcel A's regulatory history.
- Section 4.0, National Environmental Policy Act (NEPA) Compliance, discusses the disposal and reuse of HPS and Parcel A with regard to NEPA requirements.
- Section 5.0, Environmental Baseline Survey (EBS) Findings, summarizes findings of the basewide EBS. This summary includes reclassification of environmental condition of property (ECP) types at Parcel A, environmental factors that require no restrictions in the transfer documents, other related environmental factors that require no restrictions in the transfer documents, and environmental factors that require restrictions in the transfer documents.
- Section 6.0, Notice of Hazardous Substances, discusses the requirement for hazardous substance notification for Parcel A.
- Section 7.0, Additional Deed Contents, discusses deed restrictions and notifications for Parcel A and presents the deed covenant.
- Section 8.0, Conclusions, presents the signed statement that Parcel A is suitable for transfer.

Figures and tables are provided after Section 8.0, and the following attachments are provided after the tables:

- Attachment 1: Revised Responses to Agency Comments on the Draft Finding of Suitability to Transfer for Parcel A, Dated November 6, 1998

- Attachment 2: Revised Responses to Agency Comments on the Draft Final Finding of Suitability to Transfer for Parcel A, Dated September 22, 1999

- Attachment 3: Responses to Agency and Public Comments on the Finding of Suitability to Transfer for Parcel A, Revision 2, Dated March 26, 2002

- Attachment 4: Resolution of the Responses to Agency Comments on the Finding of Suitability to Transfer for Parcel A, Revision 2, Dated August 26, 2002

- Attachment 5: Final Resolution of the Responses to Agency Comments on the Finding of Suitability to Transfer for Parcel A, Revision 2, Dated March 2004

- Attachment 6: Responses to Regulatory Agency Comments on the Final Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

- Attachment 7: Information on Decommissioning of Parcel A Groundwater Monitoring Wells and Piezometers

- Attachment 8: Memoranda of Unrestricted Release for Building 816, Dated August 24, 2001, March 28, 2002, and March 29, 2002

- Attachment 9: Memorandum of Unrestricted Release for Building 821, Dated November 15, 2002

- Attachment 10: Memorandum of Unrestricted Release for Building 322, Dated August 27, 2004

1.2 INFORMATION SOURCES ANALYZED

This FOST is prepared based on an analysis of information contained in the documents listed in chronological order below.

- Naval Radiological Defense Laboratory (NRDL). 1969. "Health Physics Activities in Connection with the Disestablishment of NRDL: Disposal of Radioactive Material and Termination of Atomic Energy Commission Licenses." December 31.

- PRC Environmental Management, Inc. (PRC). 1992a. "Final Summary Report of Underground Storage Tank Removals (July through October 1991), Naval Station Treasure Island, Hunters Point Annex, San Francisco, California." November 18.

- PRC. 1992b. "Surface Contamination Radiation Survey, Draft Report, Naval Station Treasure Island, Hunters Point Annex, San Francisco." November.

- PRC and Normandeau Associates. 1993. "Investigation of Tritium in Surface Soils and Paving Materials Surrounding Building 816, Naval Station Treasure Island, Hunters Point Annex, San Francisco, California." July.

- Tetra Tech, Inc. (Tetra Tech). 1993a. "Lead-Based Paint and Soil Sampling: Parcel A Quarters, Hunters Point Naval Base." Prepared for Western Division, Naval Facilities Engineering Command, San Bruno, California. August.

- Tetra Tech. 1993b. "Asbestos Survey at Hunters Point Annex Parcel A and Dry Dock No. 4." October.

- PRC. 1993. Letter Enclosing Minutes for Hunters Point Annex Radiation Technical Meeting Held on October 4, 1993. November 9.

- PRC and Harding Lawson Associates (HLA). 1993. "Draft Final Parcel A Site Inspection Report, Naval Station Treasure Island, Hunters Point Annex, San Francisco, California." October 15.

- California Department of Health Services (CaDHS). 1993. Letter Enclosing Results of Tritium Confirmation Sampling Around Building 816. From Dr. Steven A. Book, CaDHS. To Ms. Barbara Smith, California Regional Water Quality Control Board (RWQCB). November 24.

- California Department of Toxic Substances Control (DTSC). 1994. Blood Lead Computer Model.

- U.S. Department of the Navy (Navy). 1995. "Proposal to Designate the Bedrock in Parcel A as a Non-Drinking Water Source." March 31.

- RWQCB. 1995. "Response to Navy's Proposal to Designate Parcel A as a Non-Drinking Water Source." May 10.

- Environmental Chemical Corporation (ECC). 1995. "Parcel A Asbestos Remediation Report." September 12.

- PRC. 1995a. "Parcel A Remedial Investigation Report, Hunters Point Annex, San Francisco, California." September 22.

- PRC. 1995b. "Hunters Point Annex Parcel A Record of Decision." November 16, signed November 29.

- AFA Construction, Inc., and Golder Associates (AFA and Golder). 1996. "Site-Specific Environmental Baseline Survey, 4-Acre Lot (adjacent to Building 808), Hunters Point Annex, San Francisco, California." February.

- HLA. 1996. "Draft Parcel A Storm Drain Monitoring Report, Hunters Point Annex, San Francisco, California." May 3.

- IT Corporation (IT). 1998. "Summary Report, Parcel A Supplemental Soil Lead Sampling, HPS, San Francisco, California." March 10.

- U.S. Environmental Protection Agency (EPA). 1998. Letter Regarding Summary Report for Parcel A Supplemental Soil Lead Sampling at HPS. From Ms. Claire Trombadore, EPA Region IX. To Mr. Mike McClelland, Navy, Naval Facilities Engineering Command, Engineering Field Activity West. April 27.

- Tetra Tech EM Inc. (TtEMI). 1998a. "Final Basewide Environmental Baseline Survey, Revision 01, HPS, San Francisco, California." September 4.

- TtEMI. 1998b. "Revised Response to Agency Comments on the Draft Finding of Suitability to Transfer for Parcel A, HPS, San Francisco, California." November 6.

- Department of Defense (DoD) and EPA (DoD/EPA) 1999. "Lead-Based Paint Guidelines for Disposal of Department of Defense Residential Real Property – A Field Guide, Interim Final." December 1999.

- Supervisor of Shipbuilding and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS). 1999a. "Asbestos Re-Inspection Report for 27 Buildings in Parcels A and B at HPS." June.

- SSPORTS. 1999b. "Polychlorinated Biphenyl Survey/Abatement Report." July.

- SSPORTS. 1999c. "Asbestos Remediation Completion Report for 23 Buildings in Parcels A and B, Volume 1." August.

- Naval Sea Systems Command, Radiological Affairs Support Office (RASO). 1999. Letter 6470, Serial 02E/991539/0707. October 20.

- Navy. 2000a. "Final Environmental Impact Statement for the Disposal and Reuse of HPS." June

- Navy. 2000b. Electronic Mail Correspondence Regarding Vandalism of Electrical Equipment near Building 821 on Parcel A. Between Mr. David DeMars, Lead Remedial Project Manager for HPS, Naval Facilities Engineering Command, Southwest Division, and Ms. Claire Trombadore, Remedial Project Manager, EPA Region IX. October 11.

- New World Technology (NWT). 2001. "Hunters Point Naval Shipyard Radiological Screening Investigation, San Francisco, California." Revision 1. May.

- CaDHS Environmental Management Branch. 2001. Letter Regarding Release of Building 816, Parcel A at HPS. August 24.

- IT. 2001a. "Final Tank Closure Report, Aboveground/Underground Tank Cleaning and Removal, HPS, San Francisco, California." December 10.

- IT. 2001b. Electronic Mail Correspondence Regarding Recent Housekeeping Activities at Building S-807. Between Ms. Marilyn Blume, IT, and Mr. Doug Bielskis, TtEMI. December 21.

- Navy. 2002. Letter Regarding Release of Building 821, Parcel A, at HPS. June 12.

- CaDHS Environmental Management Branch. 2002. Letter Regarding Release of Building 821, Parcel A at HPS. November 15.

- TtEMI. 2003. "Final Landfill Gas Characterization Report, Parcel E Nonstandard Data Gaps Investigation, HPS, San Francisco, California." December 23.

- RASO. 2004. "Final Historical Radiological Assessment [HRA], History of the Use of General Radioactive Materials, 1939-2003, HPS, San Francisco, California." Volume II. August 31.

- TtEMI. 2004. "Parcel E Standard Data Gaps Investigation, Interim Data Analysis Report, HPS, San Francisco, California." March 10.

- EPA. 2004. Electronic Mail Regarding HPNS [Hunters Point Naval Shipyard] Building 322 Radiation Confirmation Survey Results. From Mr. Steve M. Dean, Superfund Technical Support, EPA. To Michael Work, DOD and Pacific Islands Section, EPA. July 14.

- Tetra Tech FW, Inc. 2004. "Final Status Survey and Results, Revision 0, Building 322 (Donahue Street and Innes Avenue), HPS, San Francisco, California." July 27.

- CaDHS Environmental Management Branch 2004. Letter Regarding Release of Building 322, Parcel A, at HPS. August 27.

2.0 PROPERTY DESCRIPTION

HPS is located on a promontory in southeastern San Francisco (Figure 1). Parcel A consists of 75 acres of land at HPS. Currently, 74 buildings are present on Parcel A, 45 of which are former residences. Table 1 lists the buildings in Parcel A. In addition to the 74 buildings, the foundations of 43 former structures are located in Parcel A. Parcel A also contains storm drains, steam lines, a sanitary sewer system, and an active natural gas distribution system that served or serves Buildings 322 (former), 915, and 916.

Parcel A is bounded by Parcels B, C, D, and E, and by the Bayview-Hunters Point neighborhood to the northwest. The boundaries of Parcel A are shown on Figure 2. The boundary of Parcel A has been revised several times since it was originally delineated in 1992. Before the record of decision (ROD) for Parcel A was completed in 1995, the boundary of the parcel was modified to keep the contaminated areas intact. The parcel as originally delineated was modified in two areas along the common boundaries between Parcels A and B at Installation Restoration (IR) Sites 06 and 18. As a result, Parcel B now includes areas where contaminants were detected

along the boundary of Parcel A; in other words, the contaminated areas are now completely within Parcel B. The boundary of Parcel A as published in the ROD reflected this change (PRC 1995b). In addition, the entirety of IR-06, previously located in Parcel B, was moved to Parcel C in 2001.

In October 1998, the boundary of Parcel A was further modified, as shown on Figure 2. The portion of Crisp Avenue that was previously part of Parcel A has been excluded and is now part of Parcel E. In addition, the boundary of Parcel A was modified to include the portion of Spear Avenue that lies along the southeastern border of the parcel.

In 2002, the boundary of Parcel A was again revised, as shown on Figure 3. The northwestern boundary of Parcel A was modified to exclude an area adjacent to Parcel B; this area will be addressed in the future as part of Parcel B. It was moved because of its proximity to locations at Parcel B that underwent remediation from 1998 to 2001. During the remedial action at Parcel B, one excavation extended into Parcel A, and one excavation was near the boundary of Parcel A. The excavations were backfilled with clean soil after results for confirmation samples were found to meet the cleanup goals for residential reuse. However, because the regulatory agencies had not yet reviewed the data for the completed excavations, the boundary of Parcel A was modified to (1) move both excavations completely into Parcel B, and (2) include a buffer zone at least 20 feet wide between each excavation and the boundary of Parcel A. In addition, the boundary of Parcel A was modified to include the portion of Fisher Avenue that lies along the eastern border of the parcel.

In 2004, the boundary of Parcel A was again revised, as shown on Figure 2. In addition to removing portions of Spear and Fisher Avenues from Parcel A (rescinding the 1988 and 2002 modifications, respectively), the southeastern boundary of Parcel A was modified to exclude Buildings 813, 819 (Sewer Pump Station "A"), and 823 and the surrounding area. This area now lies in Parcel D. It was moved based on the recommendation in the HRA (RASO 2004) that Buildings 813 and 819 be surveyed for potential radioactive contamination. A survey was also recommended for the main line of the sanitary sewer along Fisher and Spear Avenues that flows into the pump station and the main line along Crisp Avenue that flows out of the pump station.

In addition, boundaries of EBS subparcels N1A, S46A, and H48A have been revised, as shown on Figure 3, to eliminate the minor discrepancies between the boundaries of the subparcels in the EBS and the boundary of Parcel A. Small areas of Parcel A have been shown outside of EBS subparcel boundaries because those boundaries were established during the original EBS based on computer-aided design drawings of the base. Conversely, the boundary of Parcel A was delineated directly from legal descriptions. Since Parcel A accurately represents the actual extent of Navy-owned property, the boundaries of the subparcels in the EBS were revised to be contiguous with the boundary of Parcel A.

3.0 REGULATORY COORDINATION

The Navy issued Revision 1 of the basewide EBS for HPS on September 4, 1998. EPA, DTSC, the City and County of San Francisco Department of Public Health (SFDPH), and the San Francisco Redevelopment Agency (SFRA) received draft versions of Revision 1 of the basewide EBS for review. Revision 1 of the basewide EBS classifies the installation property in accordance with the DoD's ECP Area Type categories.

EPA, DTSC, and RWQCB participated throughout the remedial investigation (RI) process at Parcel A and were consulted during development of the ROD for Parcel A. EPA concurred with the findings of the investigations at Parcel A on November 8, 1995, and signed the ROD for Parcel A on November 29, 1995. DTSC and RWQCB also concurred and signed the ROD for Parcel A on November 28, 1995. EPA considers the ROD for Parcel A the decision document demonstrating that the Navy has (1) complied with Section 120(h)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, and (2) taken all necessary remedial actions.

EPA and DTSC participated in a scoping meeting for the FOST for Parcel A on March 26, 1996, to initiate the regulatory agency consultation process and discuss the content of the document. The draft version of the FOST for Parcel A was submitted to the regulatory agencies, SFDPH, and SFRA in June 1996 for review and comment. Written comments from the regulatory agencies and SFDPH were received in July 1996. The Navy submitted written responses to the comments to the regulatory agencies and SFDPH in August 1996. In November 1996, SFDPH sent a letter stating that the Navy's responses to the comments on the draft FOST for Parcel A did not adequately address SFDPH's concerns about lead-based paint (LBP) in soil.

As a result of the SFDPH letter, the Navy collected additional soil samples for analysis of lead at Parcel A in 1997 (Section 5.3). The regulatory agencies and SFDPH reviewed the results of the supplemental sampling and concurred that the Navy had adequately characterized Parcel A for lead in soil. In November 1998, the Navy submitted revised responses to comments on the draft FOST for Parcel A that updated the information on lead in soil (TtEMI 1998b; also see Attachment 1); the Navy, EPA, and SFDPH developed the revised response in a collaborative process. The draft final version of the FOST was submitted in February 1999 for review and comment. Comments and responses on the draft final FOST (Attachment 2) were incorporated into the final FOST that was submitted in February 2000. The final FOST was revised in January 2001 to document that the NEPA process was complete and to include the formal Navy signature in the final FOST.

The final FOST was revised a second time in March 2002 to include an updated boundary map for Parcel A (Figure 2) and more current information about radiological clearance and other activities at Parcel A. The March 2002 version is referred to as the draft FOST, Revision 2. The Navy opened a public review and comment period for the draft FOST, Revision 2, from March 27 to May 28, 2002. In addition, a public meeting was held on April 18, 2002, to solicit comments on the draft FOST, Revision 2. The Navy submitted responses to regulatory agency and public comments on the draft FOST, Revision 2, on August 26, 2002, and on

September 5, 2002; these responses are presented in Attachments 3 and 4. On March 19, 2004, the Navy published a draft final FOST for Parcel A, Revision 2. Attachment 5 presents the Navy's proposed resolution for comments received .

This document, the final FOST, Revision 3, includes additional information about radiological clearance and work that addresses monitoring and control of landfill gas to support resolution of these issues. The final FOST, Revision 3, also provided an updated boundary map for Parcel A. As described in Section 2.0, the boundary of Parcel A was adjusted to allow surveys at Buildings 819 (pump station A) and 813, which are recommended in the final HRA (RASO 2004). The Navy prepared responses to regulatory agency comments received on the draft final FOST, Revision 3; these responses are presented in Attachment 6. In addition, DTSC had one unresolved comment, and this comment is presented in Appendix A.

In December 1998, EPA announced its intent to delete Parcel A from the National Priorities List (NPL) because all appropriate response actions have been taken. The State of California concurred, and Parcel A was officially deleted from the NPL on April 5, 1999. Although the boundary of Parcel A has been modified since the property was deleted from the NPL, the areas within the current boundary are wholly contained within the portions deleted from the NPL. (In other words, some of the original Parcel A property was moved to adjacent parcels.)

4.0 NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE

In accordance with the requirements of NEPA, a final environmental impact statement on the Navy's disposal and reuse of the properties at HPS was published on June 16, 2000 (Navy 2000a). The NEPA ROD for all of HPS, including Parcel A, was published in the *Federal Register* on November 20, 2000.

5.0 ENVIRONMENTAL BASELINE SURVEY FINDINGS

The basewide EBS divided HPS into units to correspond to the subparcels SFRA proposed in the HPS redevelopment plan. Fifteen of the HPS subparcel units lie either entirely or partially in Parcel A. These subparcels are listed in Table 2 and are shown on Figure 3. The subparcel designations contain the letters N, S, or H to signify the northern, southern, or hill areas of HPS. Open space areas are designated by the suffix OS.

Nine subparcels are located entirely in Parcel A (H49 through H57). The other six subparcels (H48, HOS, N1, N3, N17, and S46) are located partially in Parcel A, with portions in Parcels B, C, D, or E. The portions of subparcels that lie within Parcel A are referred to as subparcels H48A, HOS-A, N1A, N3A, N17A, and S46A (Figure 3). The ECP categorizations of all subparcels were discussed in the EBS and previous versions of the FOST. Several subparcels previously discussed in the draft FOST, Revision 2, are not included in this final FOST, Revision 3, based on the changes to the boundary in 2004, which placed them outside of Parcel A. The subparcels affected by the 2004 changes are summarized in Table 3.

The ECP categorization presented in the draft FOST for Parcel A was based on the definitions presented in the 1993 DoD document, "Standard Classification of Environmental Condition of Property Area Types," and the subparcel classification presented in the original version of the HPS basewide EBS dated June 3, 1996. The 1996 DoD document, "Addendum to the Base Realignment and Closure Cleanup Plan Guidebook, August 1996," revised the definitions of the ECP Area Types as follows:

- Area Type 1: Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas)
- Area Type 2: Areas where only release or disposal of petroleum products has occurred
- Area Type 3: Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial actions
- Area Type 4: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken
- Area Type 5: Areas where release, disposal, and/or migration of hazardous substances has occurred and removal or remedial actions are under way, but all required actions have not yet been completed
- Area Type 6: Areas where release, disposal, and/or migration of hazardous substances has occurred, but required actions have not yet been implemented
- Area Type 7: Unevaluated areas or areas requiring additional evaluation

Table 4 of this FOST shows the new categorization of each subparcel based on the revised definitions listed above. In addition, Table 4 presents the rationale for the present categorization of each subparcel. Table 5 summarizes the environmental factors considered, including the property classification factors.

Based on the current ECP Area Type classifications of the 15 subparcels in Parcel A, all property that lies within the boundaries of Parcel A as shown on Figure 2 is available for transfer. Ten subparcels (H49 through H51, H54 through H57, N1A, N3A, and S46A) are classified as ECP Area Type 1. Two subparcels (H52 and N17A) are classified as ECP Area Type 2. Three subparcels (H48A, H53, and HOS-A) are classified as ECP Area Type 4.

Five subparcels located partially in Parcel A (H48, HOS, N1, N3, N17, and S46) were previously classified as ECP Area Type 6 in Revision 1 of the basewide EBS because of conditions on portions of the subparcels that lie outside of Parcel A. Each of these EBS subparcels has subsequently been split into two EBS subparcels, separating portions of the original EBS

subparcels that originally were located in Parcel A from portions now located in adjacent parcels. Those portions of the three subparcels that lie within Parcel A (N1A, N3A, and S46A) have been classified as ECP Area Type 1.

ECP Area Type 1: Subparcels that include portions of adjacent parcels — N1A, N3A, and S46A

This FOST categorizes subparcel N1A as ECP Area Type 1 because no releases or disposal of any hazardous substances or petroleum products occurred (TtEMI 1998a). Most of subparcel N1A is paved.

This FOST categorizes subparcel N3A as ECP Area Type 1 because no releases or disposal of any hazardous substances or petroleum products occurred at N3A (TtEMI 1998a). Most of subparcel N3A is paved.

As previously discussed, the March 2004 change in the boundary excluded Building 819 and the associated sewer main lines from Parcel A. This FOST categorizes subparcel S46A, which excludes the areas in Parcels D and E of former subparcel S46, as ECP Area Type 1 because no releases or disposal of any hazardous substances or petroleum products occurred at S46A (TtEMI 1998a).

ECP Area Type 2: Subparcels that include portions of adjacent parcels — N17A

Groundwater underlying subparcel N17A, which excludes the area in Parcels B and C, contains petroleum hydrocarbons (motor oil) at a maximum concentration of 600 micrograms per liter (µg/L), which is below the action level. As a result, subparcel N17A is also classified ECP Area Type 2.

ECP Area Type 4: Subparcels that include portions of adjacent parcels — H48A and HOS-A

All actions at these three subparcels are documented in the RI report for Parcel A (PRC 1995a) and ROD (PRC 1995b). Actions taken at these subparcels are summarized in Section 5.1.1 of this FOST.

Soils that contain the analytes listed in Table 6 were removed during investigation by excavation as part of a site inspection (SI) of Site 41 that is wholly contained within subparcel H48A. The investigation by excavation at this SI site reduced contaminant concentrations to residual levels that are protective of human health and the environment (PRC 1995a). Subparcel H48A remains classified as ECP Area Type 4.

Soils that contain the analytes listed in Table 6 were removed during investigation by excavation during an SI of site SI-19 that is wholly contained within subparcel HOS. The investigation by

excavation at this SI site reduced contaminant concentrations to residual levels that are protective of human health and the environment (PRC 1995a).

5.1 ENVIRONMENTAL FACTORS THAT REQUIRE NO RESTRICTIONS

Based on an evaluation of the documents listed in Section 1.2, the environmental resources or conditions discussed below were determined to pose no threat to human health or the environment; therefore, no specific restrictions in the transfer documents are required. These environmental resources or conditions were investigated under CERCLA. Table 5 summarizes the CERCLA and non-CERCLA environmental factors considered.

5.1.1 Installation Restoration Program Investigation

Eight sites at Parcel A were investigated under the IR Program in accordance with CERCLA: IR-59, IR-59 Jerrold Avenue Investigation (JAI), and sites SI-19, SI-41, SI-43, SI-45, SI-50, and SI-51 (Figure 4). IR Program sites SI-45, SI-50, SI-51, and IR-59 are parcel-wide and do not lie within the boundaries of any single subparcel. Therefore, they are not shown on Figure 4. Site SI-41 is in subparcel H48A, sites IR-59 JAI and SI-43 are in subparcel H53, and site SI-19 is in subparcel HOS-A (Table 2).

The Navy conducted a preliminary assessment and SI of Parcel A in the first phase of the CERCLA process and identified six potentially contaminated areas, referred to as SI sites. Soil that contained hazardous substances was excavated during the investigations at SI-19, SI-41, and SI-43; disposed of at an appropriate off-site landfill; and replaced with clean soil. As a result of the soil excavation, the sites required no further action because it was determined that they did not pose a risk to human health or the environment (PRC and HLA 1993). EPA and DTSC concurred with this decision in the ROD for Parcel A (PRC 1995b). Table 6 summarizes the results of the SI.

Based on the data collected during the SI, the Navy conducted an RI of groundwater underlying Parcel A, referred to as IR-59; Figure 5 shows the locations of former groundwater monitoring wells and piezometers. All groundwater monitoring wells and piezometers on Parcel A are now decommissioned; information on the well decommissioning is provided in Attachment 7. A second site, IR-59 JAI, was discovered during the RI and was also investigated. Soil that contained hazardous substances was excavated during the investigation at IR-59 JAI, disposed of at an appropriate off-site landfill, and replaced with clean soil. IR-59 JAI required no further action as a result of the soil excavation. In addition, the Navy selected no action as the remedial alternative for site IR-59. EPA and DTSC concurred with the no-action alternative selected for IR-59 and IR-59 JAI.

Based on the human health risk assessment (HHRA) conducted during the RI, the Navy concluded that the overall condition of Parcel A posed no significant threat to human health or the environment (PRC 1995a, 1995b). The HHRA identified two exposure pathways that could expose future residents to hazardous substances in soil: direct exposure and ingestion of

homegrown produce. Based on the HHRA, the ROD for Parcel A concluded that concentrations of hazardous substances in the soil at Parcel A are either within or below EPA's acceptable risk levels or, for metals, are at ambient levels. Accordingly, no action was found necessary for the soil in Parcel A (PRC 1995b). Complete exposure pathways to groundwater do not exist at Parcel A, consistent with the determination by the Navy and RWQCB that groundwater underlying Parcel A is not a potential source of drinking water (Navy 1995; RWQCB 1995). As a result, groundwater poses no threat to human health or the environment and was not considered during the HHRA.

EPA and DTSC concurred with the findings of the HHRA and the no-action alternative selected for Parcel A. The no-action decision for Parcel A is documented in the ROD for Parcel A (PRC 1995b), which was signed on November 29, 1995. Although the boundary of Parcel A has been modified since the ROD was signed, the modifications described in Section 2.0 only moved property from Parcel A to adjacent parcels that are not the subject of this FOST. As a result, all property that falls within the current boundary of Parcel A meets the criteria for a FOST.

Abrasive blast material (ABM) was discovered that had been used as bedding material for a sanitary sewer main at IR-59 JAI. The ABM contained metals, and the ABM and sewer sections were removed during the IR-59 JAI excavation. It is possible that additional ABM may have been used elsewhere in Parcel A as bedding material for piping; however, an investigation to identify and remove all such ABM that may exist is not practical. Therefore, additional ABM could be discovered in the future.

The black ABM excavated from IR-59 JAI was not analyzed for radioactivity, but was analyzed for contract laboratory program (CLP) semivolatile organic compounds, CLP pesticides and polychlorinated biphenyl (PCB), total petroleum hydrocarbons (TPH) as diesel fuel and as motor oil, and metals. The ABM was excavated until confirmation samples collected from the excavation area contained minimal concentrations of any chemicals of concern. A composited sample of black ABM collected from Parcel B was analyzed for evidence of naturally occurring radioactivity such as might be present in some ABM. The sample was also analyzed for evidence of radioactivity that might be residual from cleanup of OPERATION CROSSROADS ships. The Navy confirmed the absence of radiological hazard associated with the ABM (RASO 1999).

Specific environmental factors evaluated as part of the RI included the storm drain and sanitary sewer systems, the steam line system, and pesticides and herbicides. The findings for each environmental condition are presented below.

5.1.1.1 Storm Drain and Sanitary Sewer Systems

The storm drain and sanitary sewer systems were investigated as part of the SI. These systems are physically connected and are collectively described as SI-50. As documented in the SI report for Parcel A, visual inspections indicated that no further investigation or remedial action at SI-50 was necessary (PRC and HLA 1993). Sediments in the storm drain system at Parcel A were removed during system maintenance between August 1994 and April 1995. A storm drain

monitoring program was implemented after the SI was completed to (1) evaluate whether cleanout of the storm drain was complete and adequate, (2) assess the continued presence of sediments in the storm drain system and the potential for the system to transport chemicals, and (3) document the quality of water and sediment and the physical condition of the storm drain system before Parcel A is transferred. The storm drain in Parcel A was monitored as part of the Navy's operations and maintenance program. The results of the storm drain monitoring program and a description of maintenance are presented in the Parcel A storm drain monitoring report (HLA 1996). This report concluded that the storm drain system does not pose a risk to human health or the environment.

5.1.1.2 Steam Line System

The steam line system, referred to as SI-45, was investigated as part of the SI to evaluate whether the system contained waste oil. The steam lines in Parcel A did not contain waste oil, and it was concluded that no further investigation was required (PRC and HLA 1993).

5.1.1.3 Pesticides and Herbicides

The Navy applied registered pesticides at Parcel A in a manner consistent with the manufacturer's instructions and in accordance with the Navy's established pesticide management program, pursuant to applicable laws and regulations. Pesticides were used at Parcel A for ordinary and routine application in a manner consistent with standards for registered application for residential areas.

Building 906, the Gardening Tool House, was used to store pesticides. As a result, this building was investigated under CERCLA. The building area is referred to as SI-43. Building 904, a small building northwest of Building 906, was also located within SI-43. In 1993, Buildings 906 and 904 were demolished. The investigation of SI-43 included excavating soil to characterize the site. Contaminated soil from SI-43 was disposed of at an appropriate off-site landfill after the investigation, and samples of remaining soils were analyzed. Based on the analytical data and the results of the risk assessment, SI-43 was found to pose no significant hazards or risks based on concentrations of hazardous substances detected in sampling locations of soils that remained after investigation by excavation. As a result, the SI report for Parcel A recommended no further action at the site (PRC and HLA 1993). The findings and recommendations for SI-43 detailed in the SI report for Parcel A are also included in the RI report for Parcel A (PRC 1995a). The ROD for Parcel A documented that no further action was required at SI-43 (PRC 1995b).

5.1.2 Storage Tanks

Underground storage tanks (UST) and aboveground storage tanks (AST) at Parcel A are discussed below.

5.1.2.1 Underground Storage Tanks

As discussed in Section 2.0 and summarized in Table 3, the March 2004 change in the boundary excluded Building 813 and the surrounding area. This change moved UST S-812 to Parcel D; this UST site is the subject of a formal closure letter from RWQCB. As a result, no USTs are located within the current boundary of Parcel A.

5.1.2.2 Aboveground Storage Tanks

Two ASTs are present on Parcel A: a 106,000-gallon water tank, and a 1,000-gallon propane tank at Building 110. The water tank, which is located at the corner of Coleman Street and Innes Avenue in subparcel H53, is in good condition but is currently not used. The propane tank is located at the southern end of Building 110 in subparcel N17A; this tank supplies propane gas to a kitchen inside the building. Neither of the ASTs present on Parcel A poses a threat to human health or the environment; therefore, no action is planned for these ASTs (TtEMI 1998a).

5.1.3 Radioactive Contaminants

Buildings 322, 816, and 821 are the only buildings on Parcel A formerly used by the NRDL. Radiation investigations at each building are discussed below. The HRA recommended that additional locations be surveyed for potential residual radioactive contaminants (Buildings 813 and 819 and sanitary sewer main lines associated with Building 819) formerly located in Parcel A. However, as discussed in Section 2.0, the current boundary of Parcel A excludes these locations.

5.1.3.1 Building 816

NRDL used Building 816 as a high-voltage accelerator laboratory from the late 1940s until 1969. The building housed a Van de Graaff accelerator, which was used to accelerate electrons and positive ions (NRDL 1969). Tritium targets used to produce neutrons were the primary source of radiation in the building. In 1969, the Van de Graaff accelerator and its auxiliary equipment were removed from the building and sent to a Navy facility in Indiana. The building was subsequently steam-cleaned to remove residual tritium from the concrete walls and floors (NRDL 1969). Swipe samples collected after the cleanup was completed indicated that residual contamination was not present. The Atomic Energy Commission (AEC) inspected the building on November 19, 1969, and officially cleared it for unrestricted release on November 24, 1969 (NRDL 1969).

Additional surveys and swipe sampling were conducted in Building 816 in 1979, 1992, and 2001. In 1979, the Navy collected five swipe samples from five locations in Building 816. Analytical results indicated that surface radiation levels did not exceed U.S. Nuclear Regulatory Commission criteria (PRC and Normandeau Associates 1993). In 1992, a survey of Building 816 was conducted to check levels of alpha, beta, and gamma radiation against new cleanup criteria; radiation levels detected did not exceed the new criteria (PRC 1992b). In 2001,

additional swipe samples were collected in Building 816 during an investigation of the target room. Analytical results showed no detectable levels of tritium and no elevated levels of radiation inside the building (NWT 2001). Based on these surveys, no detectable levels of tritium or elevated levels of radiation remain in Building 816.

In 1993, the Navy investigated exposed soil and pavement adjacent to Building 816 to evaluate whether residual tritium contamination was present outside the building. CaDHS was concerned that NRDL personnel may have walked through tritium-contaminated wastewater inside the building and transferred small quantities of contaminated material from their shoes to surfaces outside the building. The Navy collected 31 surface soil samples, 7 concrete samples, and 14 asphalt-concrete samples from around the building. No detectable levels of tritium were found in the samples (PRC and Normandeau Associates 1993). CaDHS confirmed these results when the department collected five confirmation samples from the area around Building 816 on August 13, 1993 (PRC 1993). As a result, CaDHS concluded that the area around Building 816 was not contaminated with tritium and required no further action (CaDHS 1993).

In 2001, CaDHS reviewed all documentation pertaining to the radiological investigations in and around Building 816. In August 2001, CaDHS cleared the building and surrounding area for unrestricted release (CaDHS Environmental Management Branch 2001; also see Attachment 6).

5.1.3.2 Building 821

NRDL used Building 821 as an X-ray facility from the late 1940s until 1969. An X-ray machine that produced ionizing radiation was used in the building to conduct irradiation experiments. Based on a review of historical documentation, no radioactive materials were used in Building 821 (Navy 2002). The building has been unoccupied since NRDL closed it in 1969. When the building closed, formal AEC inspection and clearance was not required because radionuclides were not used during NRDL operations in the building.

Historical research indicates that Building 821 had no potential to become contaminated with radiation from NRDL operations. Still, the Navy conducted a radiological survey of the building in 2002 as an additional precaution and to alleviate regulatory agency and public concern over potential radiological contamination in the building. Instrumentation capable of detecting alpha-, beta-, and gamma-emitting radionuclides was used to conduct the surveys, which included walkover scans and static measurements, and no specific contaminant of concern was identified for Building 821. Surveys that detect radiation exposure also were performed, but no levels above background were detected. In addition, swipe samples that detect contamination on surfaces were collected from 16 locations throughout the building. The swipe surveys by NWT beginning in 2002 included alpha and beta analysis of dry wipes collected from various areas in Building 821. The survey data indicate that Building 821 does not contain radiological contamination (Navy 2002). As a result, the Navy concluded that Building 821 was suitable for unrestricted release. The results of the survey were submitted to CaDHS in June 2002 for review. In November 2002, CaDHS cleared Building 821 for unrestricted release (CaDHS Environmental Management Branch 2002; also see Attachment 9).

5.1.3.3 Building 322

Building 322 was previously located in Parcel D, and was moved to the intersection of Donahue Street and Innes Avenue in 1959 to be used as a pass and decal office. While in Parcel D, Building 322 was used by NRDL as a research facility building. NRDL had a history of using and storing small sources of radioactive material for instrument calibration. Sources may have included cesium-137, strontium-90, radium-226, plutonium-239, or thorium-232. NRDL surveyed Building 322 in 1955 (before it was moved to Parcel A). The survey resulted in Building 322 being cleared below release limits, and NRDL did not use the building after it was surveyed (RASO 2004).

In May and June 2004, Tetra Tech FW, Inc. conducted radiological surveys on Building 322, its contents, and the concrete slab foundation. The surveys consisted of scan surveys and direct measurements of alpha, beta, and gamma radiation, exposure rate measurements, swipe samples for loose contamination, and solid sampling for residual radioactive materials. No contamination was found exceeding the release criteria from AEC Regulatory Guide 1.86. The building and its concrete slab foundation were demolished and disposed of off site (Tetra Tech FW, Inc. 2004). In addition, the analysis of the Final Status Survey data for soil under, and the area around, former Building 322 did not reveal evidence of elevated radioactivity and determined that any residual radioactivity does not exceed the release criteria in both Class 1 and Class 2 areas. The results were consistent with background levels of radioactivity obtained in similar but nonimpacted areas (background radiation reference area) (Tetra Tech FW, Inc. 2004).

Subsequently, a radiological confirmation survey conducted by EPA on June 30, 2004, concluded that there is no radiological contamination impacting the environment of HPS due to activities previously conducted at the former Building 322 (EPA 2004).

As a result, the Navy concluded that the Building 322 site was suitable for unrestricted release. The results of the surveys were submitted to CaDHS in July 2004 for review. In August 2004, CaDHS cleared Base Realignment and Closure (BRAC) property (Building 322) for unrestricted release (CaDHS Environmental Management Branch 2004).

5.1.4 Small-Caliber Munitions

The Navy reportedly used Building S-807, located in subparcel S46A north of Building 808 (Figure 2), to store small-caliber munitions for hand-held weapons (AFA and Golder 1996). Ordnance was not used or stored at any other location on Parcel A (TtEMI 1998a). Building S-807 is a bunker-like concrete structure about 10 feet wide, 3 feet deep, and 5 feet high. The front of the structure contains steel sliding doors that can be fastened with a padlock. Except at the front, the concrete structure is surrounded by a grass-covered soil mound about 35 feet wide, 45 feet deep, and 10 feet high. As a result, the top, rear, and side walls of the structure are not visible. The building was constructed some time after 1944 and was used until 1974, when the Navy ceased operations at HPS. No ordnance was found in the building, which was empty, during a 1996 visual inspection (AFA and Golder 1996).

In 2001, a Navy contractor observed loose white powder on the floor inside Building S-807 and two compressed gas cylinders lying on the ground outside the building (IT 2001b). The Navy directed the contractor to (1) identify the powder found inside the building, and (2) dispose of the powder and the gas cylinders appropriately. Field-testing of the powder revealed it to be nonreactive and slightly basic; remnants of the original container were subsequently found in the building and indicated that the powder was lime. The powder was removed from the building by vacuuming. The gas cylinders were inspected, secured, and moved to a temporary hazardous waste storage area pending off-site disposal (IT 2001b).

Building S-807 is currently empty and does not contain ordnance or any other hazardous material. Furthermore, visual inspections of the building revealed no ordnance or evidence of residual contamination from the ammunition formerly stored there. As a result, no further action is required at Building S-807.

5.1.5 Off-Parcel Issues

This section discusses the potential for contaminants to migrate from adjacent parcels at HPS to Parcel A.

Groundwater level elevations in the A-aquifer at HPS and groundwater measurements in the upland bedrock of Parcel A indicate that groundwater flows away from Parcel A, eventually discharging into San Francisco Bay (PRC 1995a). Groundwater may also flow into the force sewer main. However, the changes in the boundaries identified in this revision to the FOST have excluded these sewer mains from Parcel A by moving the portions of EBS subparcels that contain them to adjacent parcels. Migration of radioactive contaminants from the sewers to the boundaries of Parcel A is not likely because of the tendency of groundwater to flow away from the boundary of Parcel A and because radioactive contaminants found at HPS (primarily cesium-137 and radium) adsorb onto concrete (the sewer main) and soil particles. Therefore, the potential for contaminated groundwater to migrate from other parcels at HPS and into Parcel A is low.

Based on the basewide EBS, the RI and feasibility study reports for Parcels B through E, and the recent soil data gaps investigation at Parcel E, no significant contamination in soil at Parcels B through E exists adjacent to the boundary of Parcel A. In general, the area immediately adjacent to Parcel A (that is, within 25 feet) did not require extensive investigations of soil based on the preliminary assessments and SIs that were completed as part of the CERCLA process. Contaminant concentrations in soil that slightly exceed existing screening levels are present along Crisp Avenue (TtEMI 2004), which is no longer within Parcel A. However, these concentrations are not considered significant because they are either consistent with ambient levels (in the case of metals) or, in the case of polynuclear aromatic hydrocarbons, are present only in localized areas. As a result, the potential for contaminants in soil to migrate into Parcel A from adjacent parcels at HPS is low.

In a 2002 study, the Navy discovered that subsurface methane gas emanating from the Industrial Landfill at Parcel E had migrated north onto the University of California, San Francisco (UCSF) compound (Figure 2). The 2002 study also concluded that that landfill gas had not migrated

north beyond the southern edge of Crisp Avenue or into Parcel A. The finding was supported by the geology and the water table elevation at and around Crisp Avenue, which serve as barriers to the flow of gas (TtEMI 2003). Since the draft FOST, Revision 2, was issued in March 2002, the Navy installed a landfill gas extraction and control system under a time-critical removal action (TCRA) to (1) remove methane gas from the subsurface at the UCSF compound, located north of the Industrial Landfill, and (2) prevent future migration of methane gas onto the UCSF compound at concentrations above regulatory limits.

Methane was rapidly removed to a concentration below 5 percent by volume in air from October 2002 to January 2003 at nine gas extraction wells within the UCSF compound and at a tenth extraction well located east of the UCSF compound to address the first goal of the removal action.

From September to October 2002, a barrier wall and venting system were installed 6 to 10 feet south of the UCSF fence line and north of the landfill waste to address the second goal of the removal action. The barrier wall consists of an 80-mil vertical, high-density polyethylene barrier installed across the vadose zone, north of the venting system. The bottom elevation of the barrier wall was installed below the seasonal low groundwater table. The venting system consists of a gravel vent trench and horizontal-slotted polyvinyl chloride piping embedded in the gravel trench that discharges to four vertical vents with treatment units.

Operational data indicate that the system is effectively venting methane from the trench and controlling gas migration. Gas is controlled by passive or active venting to remove landfill gas from the UCSF property and to prevent further migration north of the barrier wall. In addition to the occasional active extraction within the vent trench, the Navy actively extracted gas from one gas monitoring probe (GMP) on the UCSF compound (GMP24) in October 2003 to remove a localized pocket of methane gas. Currently, the Navy is performing regular gas monitoring to verify the performance of the gas control system.

In addition to completing the TCRA for landfill gas, the Navy initiated an interim landfill gas monitoring and control plan using Title 27 of the *California Code of Regulations* as guidance. The Navy issued the "Final Interim Landfill Gas Monitoring and Control Plan" on August 13, 2004. The monitoring network consists of the following three-tiered system:

- UCSF Fence Line GMPs: The first tier GMPs (10 total) are located about 150 feet apart along the UCSF fence line; additional GMPs are located along the western fence line, between the landfill and adjacent non-Navy property. The GMPs at the UCSF fence line are considered the regulatory compliance points and are monitored to ensure that methane levels are below 5 percent by volume in air.

- UCSF Compound GMPs: These second-tier GMPs (five total) were installed within the UCSF compound to monitor levels of methane during the removal action. These additional GMPs are not compliance points, but provide additional data to ensure that the fence line GMPs are effective in monitoring potential landfill gas migration.

- Crisp Avenue GMPs: These third-tier GMPs (13 total) along Crisp Avenue monitor potential landfill gas migration near the boundary of Parcel A. The Navy agreed to install the Crisp Avenue GMPs to address adjacency concerns from the regulatory community and the public regarding the proximity of the landfill to Parcel A. Six of the GMPs along Crisp Avenue were screened slightly below sea level to alleviate agency concerns that the existing GMPs along Crisp Avenue may not be screened deep enough to intercept gas that migrates above the lowest potential groundwater elevation.

The Navy has regularly monitored the GMP network described above, and the data collected since active extraction on the UCSF compound was completed in January 2003 demonstrate that landfill gas is effectively controlled. The Navy also initiated a monthly gas monitoring program in January 2004 that includes a contingency for active extraction to ensure that landfill gas does not migrate beyond the UCSF fence line at levels above regulatory limits.

The Navy is working closely with the California Integrated Waste Management Board (CIWMB) to ensure that prompt, appropriate actions are taken if elevated concentrations of methane are detected beyond the compliance point. An example of such an action occurred in January 2004, when the Navy applied active extraction within the vent trench to reduce elevated concentrations of methane detected at several GMPs at the UCSF fence line. The CIWMB, as well as other regulatory agency representatives, were promptly informed of this action.

In addition, the Navy has met with CIWMB and obtained its concurrence that the monitoring program, including the contingency to actively extract landfill gas, is an appropriate means of controlling off-site migration of landfill gas. The Navy will continue regular monitoring of landfill gas and will take necessary response actions to ensure that landfill gas does not migrate off site.

Based on the data collected since January 2003, landfill gas can be effectively controlled at the UCSF fence line and UCSF compound with the barrier wall and venting system, and by periodic active extraction. The current system and procedures ensure that landfill gas will not migrate into the UCSF compound and beyond to Crisp Avenue or Parcel A.

Data from the Crisp Avenue GMPs indicate that methane is not present and that the concentrations of nonmethane organic compounds (NMOC) are within acceptable risk-based limits. These data include 6 months of monitoring using field instruments and two rounds of laboratory data. Specifically, vapor intrusion modeling was conducted with the Johnson and Ettinger Model to assess the potential human health risks associated with the detected concentrations of NMOCs. Risks were assessed for an unrestricted (residential) land-use scenario. In addition, the Johnson Ettinger Model was modified to use DTSC toxicity values, which are more conservative than the EPA toxicity values. These modeling approaches provide the most conservative scenario to evaluate whether NMOCs at the landfill posed a threat to human health. Although the source for these NMOCs is unknown, vapor intrusion modeling and the risk evaluation associated with exposure to NMOCs in indoor air from subsurface vapor intrusion show that the excess lifetime cancer risk is below 1×10^{-6} and the noncancer hazard

index is below 1.0 (TtEMI 2003). Volatile organic compounds (VOC) in soil gas samples from the GMPs along Crisp Avenue will be analyzed annually pursuant to the final monitoring and control plan.

The Navy has concluded that the adjacency issues related to landfill gas are being successfully addressed based on the current performance of the landfill gas control system and on monitoring to date from the three-tiered set of GMPs. As a result, the Navy's finding, as documented in this FOST, is that landfill gas emanating from the Industrial Landfill can be successfully controlled and does not pose a current or a significant future threat to future residents of Parcel A.

IR-74 is a formerly used defense site adjacent to Parcel A. A former gas station was located at IR-74. In 2002, soil gas monitoring probes were installed south of IR-74 near the UCSF compound in association with the landfill gas investigations. Samples from these probes contained low levels of VOCs. In addition, trichloroethene has been detected in groundwater at concentrations of 3 and 2 µg/L in monitoring well IR74MW01A on Crisp Avenue near Building 821. During the Parcel E RI conducted in 1996, an HHRA was conducted under the current industrial, future residential, and future industrial land-use scenarios at IR-56. Risks from VOCs originating in A-aquifer groundwater were determined insignificant under all of the scenarios. VOCs were not detected in soil gas samples that were collected along the southern boundary of IR-74. Also, groundwater flows toward the southeast, away from Parcel A. Therefore, VOCs found around IR-74 are not expected to pose unacceptable risks in Parcel A.

5.2 OTHER RELATED ENVIRONMENTAL FACTORS THAT REQUIRE NO RESTRICTIONS

Additional non-CERCLA environmental factors were also found to require no restrictions to transfer of Parcel A. These factors are discussed below and summarized in Table 5.

5.2.1 Polychlorinated Biphenyls

One former transformer location and nine then-operating transformers with associated oil circuit breakers were identified at seven locations during the Parcel A SI (Figure 4). These transformers are referred to collectively as SI-51; however, two of the seven locations (at Buildings 813 and 819) are no longer located in Parcel A based on the change in the boundary described in Section 2.0. The former locations of the transformers were visually inspected for stains that might indicate a release of oil that contains PCBs. In addition, the then-operating transformers were inspected to evaluate whether they held oil that contained PCBs and whether the oil was leaking. The inspections indicated that no PCB-containing oils had leaked into the surrounding environment, and no further investigation was recommended (PRC and HLA 1993).

Since the SI was completed, the Navy has removed all transformers and oil circuit breakers in Parcel A that contained PCBs at concentrations of 5 parts per million (ppm) or more as part of the BRAC operation and maintenance program at HPS (TtEMI 1998a). The transformers and oil circuit breakers were removed and properly disposed of. In 1999, the Navy resurveyed and remediated PCB-containing oil stains on concrete foundations and floors in Buildings 100,

101, and 821. Six transformers and one oil circuit breaker remain within the current boundaries of Parcel A. All of these transformers and the circuit breaker contain PCBs at concentrations less than 5 ppm (SSPORTS 1999b). Construction of the residential buildings predates 1979. Light ballasts in facilities constructed before 1979 could contain PCB oils, unless the facility has undergone retrofitting. The Navy has no record that a light retrofitting program was conducted within Parcel A; therefore, light ballasts that contain PCBs may remain in the buildings in Parcel A.

Vandalized electrical equipment that was leaking a tar-like material was observed at the transformer substation near Building 821 during an SI by Navy personnel in July 2000. This equipment included a broken switch mechanism, broken ceramic insulators, and three empty transformer cases (Navy 2000b). Although the vandalized equipment was known not to contain PCBs, the Navy collected samples from and around the equipment for analysis of PCBs. One water sample was collected from the carcass of an empty transformer. PCBs were not detected in the water sample, and the PCB detection limits for this sample were less than or equal to 0.005 ppm. Four samples of the tar-like material were collected from a broken transformer and the floor directly beneath the transformer. PCBs were not detected in any of these samples, and the PCB detection limits for the samples were less than or equal to 3.2 ppm (Navy 2000b). The Navy removed the vandalized equipment and tar-like material and cleaned the affected area, which was entirely contained on concrete and asphalt around the equipment. Soil was not affected by the tar-like material (Navy 2000b). The Navy suspects that the equipment was vandalized for the copper wire in the equipment; as a result, the Navy removed all components of the equipment that contained copper to prevent future vandalism (Navy 2000b). The spill and the vandalized equipment pose no risk to human health or the environment because the tar-like material did not contain PCBs and was completely cleaned up. As a result, the Navy concludes that no further action is required.

5.2.2 Radon

Radon is of concern in buildings where it may accumulate and pose a health risk. The regional geologic conditions at HPS indicate that areas of naturally occurring granitic material (a potential source of radon) are isolated and sporadic; therefore, radon is not considered a concern in Parcel A, and a formal assessment of radon was not required or conducted (TtEMI 1998a).

5.2.3 Petroleum-Related Compounds

During the RI for IR-59 — the groundwater underlying Parcel A — TPH extractable as motor oil was detected in groundwater at concentrations of 600 µg/L or less (PRC 1995a) (Figure 5). Seven monitoring wells (and five other grab sampling locations) were sampled in Parcel A for analysis of motor oil. Twenty-three samples were collected in groundwater, all in IR-59, except for several near Parcel B. Most of the samples were collected in 1994; the earliest was in September 1993 and the latest was in March 1995. Roughly three quarters of the samples evidenced no detectable concentrations of motor oil. The highest concentration of TPH extractable as motor oil detected was 66,000 µg/L in a grab groundwater sample from a boring. However, this concentration was detected before the well was installed and fully developed and

is not considered representative of the actual level of TPH in groundwater. Once the boring was completed and developed as a monitoring well, motor oil was detected once, at a concentration of 130 µg/L.

The RI concluded that no further investigation, remediation, or monitoring of groundwater at Parcel A is required because (1) only low levels were detected, (2) TPH as motor oil was present in only two of six wells, (3) groundwater is not a source of drinking water, (4) transport of motor oil in groundwater is likely retarded by sorption onto clay particles present within the water-bearing shear zones, and (5) high dissolved oxygen content in groundwater would allow for aerobic biodegradation of motor oil components. The EPA and the California Environmental Protection Agency concurred with the conclusion that no further action is required for groundwater at Parcel A. A notification about the detection of motor oil in groundwater will be included in the deed and will discuss the terms below.

Notification

> The Grantee is hereby informed and does acknowledge that during the remedial investigation of the Property, motor oil was detected in two specific locations in groundwater at concentrations at 600 micrograms per liter or less, as described in the "Parcel A Remedial Investigation Report, Hunters Point Annex," dated September 22, 1995. Results of the remedial investigation indicate that no further investigation, remediation, or monitoring of the groundwater underlying this Property is required. Groundwater contaminated with petroleum motor oil at the concentrations detected in the shallow bedrock aquifer underlying Parcel A presents a potential health risk if used as a municipal or domestic drinking water source. The City of San Francisco's Groundwater Policy, excluding future groundwater development of the bedrock aquifer, serves to protect human health from any potential risks associated with the residual petroleum groundwater contamination. The Grantor, upon Grantee's request, shall provide a Notice of Release, in recordable form, to the Grantee at such time as this notice is no longer necessary and the appropriate Federal or State regulatory agency(s) have certified in writing that this notice is no longer necessary. Such Notice of Release shall be deemed to remove all notices and restrictions relating to groundwater contaminated with petroleum products from the specified portion of Property.

5.2.4 Abrasive Blast Material

ABM was identified during the Parcel A RI at IR-59 JA1. The ABM contained visible paint chips and a sample was collected for chemical analysis. Metals consistent with used ABM were identified and the ABM was removed from the excavation at IR-59 JA1 and disposed of. Some ABM contains naturally occurring radioactive material, as evidenced by samples collected from other parcels at HPS. However, the IR-59 JA1 ABM sample was not analyzed for radioactive material. Therefore, it is not possible to determine with certainty whether or not the ABM removed from Parcel A contained radioactive material.

5.3 ENVIRONMENTAL FACTORS THAT REQUIRE RESTRICTIONS – ASBESTOS AND LEAD-BASED PAINT

Additional non-CERCLA environmental factors were also found to require restrictions to the transfer of Parcel A. These factors are discussed below and summarized in Table 5.

5.3.1 Asbestos

In 1993, an asbestos survey was conducted in Parcel A. Detailed information on the presence of asbestos-containing material (ACM) at each building in Parcel A is presented in the summary report for the survey (Tetra Tech 1993b). The Navy repaired and encapsulated damaged thermal system insulation in 41 buildings at Parcel A (ECC 1995). Because this ACM is encapsulated, it currently poses no risk to human health or the environment. The Navy also removed and disposed of loose ACM and cleaned crawlspaces in Buildings 101, 102, 901, 66-A, and H in Parcel A (ECC 1995). In addition to the asbestos in buildings, steam lines are present in ducting and are directly buried throughout Parcel A. No asbestos survey data are known to exist for these lines, but they are presumed to have the potential to be insulated with ACM.

In 1999, the Navy reinspected nine buildings on Parcel A that were suspected to contain damaged, friable ACM: Buildings 19, 100, 101, 110, 322, 808, 915, 916, and 921 (SSPORTS 1999a). After the inspection, the Navy repaired damaged, friable ACM and removed ACM debris found during the reinspection of Buildings 100, 101, 110, 322, 916, and 921 (SSPORTS 1999c).

A notification regarding ACM will be included in the deed as follows:

Notification

> ACM is present in many of the buildings at Parcel A. The location and condition of known ACM is documented in survey and remediation summary reports (Tetra Tech 1993b; ECC 1995; SSPORTS 1999a, 1999c). Asbestos lagging is presumed to exist on the steam piping throughout Parcel A.

A restriction for ACM will be included in the deed as follows:

Restriction

> Due to the presence of ACM in structures and potentially on any steam lines that may be located on Parcel A, without the completion of any necessary asbestos abatement, interim use of these structures prior to demolition is prohibited.

Covenant

> The Grantee covenants and agrees that in its use of the Property, including but not limited to demolition or handling of buildings or utilities containing ACM, it will be responsible for managing ACM and for complying with all applicable federal, state, and local laws relating to ACM. The Grantee acknowledges that the Grantor assumes no liability for costs of any kind or for damages for personal injury, illness, disability, or death to the Grantee, or to any other person, including members of the general public, arising from or incident to the purchase, transportation, removal, handling, use, disposition, or activity causing or leading to contact of any kind whatsoever with ACM in the improvements including, but not limited to, the utilities (both underground and above-ground) and structures on the Property, arising after the conveyance of the Property from the Grantor to the Grantee, whether the Grantee has properly warned, or failed to properly warn the persons injured.

5.3.2 Lead-Based Paint

LBP was found to be an additional non-CERCLA environmental factor to require restrictions to the transfer of Parcel A. DoD policy for LBP states that the Navy must comply with all applicable federal, state, and local laws and regulations regarding LBP hazards. This section summarizes the process the Navy used to address LBP hazards on Parcel A. A detailed description of this process is presented in Attachment 2, the Navy's responses to comments on the draft FOST for Parcel A.

Soil around former residential structures on Parcel A was sampled during a 1993 LBP survey (Tetra Tech 1993a). Elevated concentrations of lead were detected in soil samples collected from near former housing unit R-105 and the area surrounding the water tank during this survey. At EPA's request, the Navy agreed to resample these two areas in 1997. High levels of lead were not duplicated at R-105 during the 1997 supplemental sampling event, and the average concentration of lead in the soil at the water tank was approximately one-tenth the concentration reported for the water tank area in 1993 (IT 1998).

When the 1997 supplemental sampling event was complete, the BRAC Cleanup Team (BCT) reviewed all of the data on lead for Parcel A (from both the 1993 and 1997 sampling events) with respect to the 221 milligrams per kilogram (mg/kg) health-based cleanup goal that had been calculated for Parcel B using DTSC's blood lead computer model (DTSC 1994). Although the 221 mg/kg cleanup goal for lead had been calculated for residential reuse at Parcel B, EPA believed it was reasonable to use it to screen the data for lead in soil for Parcel A because the proposed reuse for Parcel A is residential housing. The average concentration of lead in soils across Parcel A derived from the 1993 and 1997 sampling events is 215 mg/kg. Therefore, the BCT concluded that lead in soil at Parcel A does not pose a risk to human health and that no further action is required to protect human health because the average concentration of lead in soil across Parcel A is below the 221 mg/kg cleanup goal. EPA provided written concurrence with this position in a letter to the Navy dated April 27, 1998 (EPA 1998).

The federal Residential Lead-Based Paint Hazard Reduction Act of 1992 applies only to the transfer of federal property that contains target housing for residential use. None of the residential buildings in Parcel A is currently occupied. The Navy has not implemented an LBP abatement program because the proposed transfer will not involve use of any existing structures for residential uses. Joint EPA and DoD LBP guidelines for disposal of DoD residential real property (DoD and EPA 1999) requires that structures at Parcel A that will be demolished and redeveloped as residential property after transfer must be evaluated by the transferee for lead hazards. This guidance further requires that soil samples be collected (1) after demolition and removal of demolition debris and (2) before any newly constructed dwelling units are occupied. Furthermore, the transferee must abate lead hazards found during sampling before newly constructed residences can be occupied. A notification about LBP will be included in the deed, in accordance with applicable authority (including Title 40 *Code of Federal Regulations* [CFR] Section 745.113 and 24 CFR Part 35), and will discuss the general terms provided below.

Notification

> Every purchaser of any interest in residential real property on which a residential dwelling was built before 1978 is notified that such property may present exposure to lead from LBP that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The seller of any interest in residential real property is required to provide the buyer with any information on LBP hazards from risk assessments or inspections in the seller's possession and notify the buyer of any known LBP hazards. A risk assessment or inspection for possible LPB hazards is recommended prior to purchase. The transferee will be responsible for managing all LBP and potential LBP in compliance with all applicable federal, state, and local laws and regulations.

A restriction for LBP will be included in the deed and will discuss the general terms provided below.

Restriction

> Due to the presence of LBP on structures located on Parcel A, interim use of these structures as residential real property or child-occupied facilities prior to demolition is prohibited. The grantee shall be responsible for managing all LBP and potential LBP hazards, including soil lead hazards, in compliance with the Residential Lead-Based Paint Hazard Reduction Act of 1992, 42 *United States Code Section* (USC) 4852d (Title X) and all applicable federal, state, and local laws and regulations. The grantee shall conduct soil sampling and remediation after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units in a manner consistent with the joint DoD and EPA field guide (DoD and EPA 1999).

6.0 NOTICE OF HAZARDOUS SUBSTANCES

Title 40 CFR Part 373.3, which implements CERCLA Sections 120(h)(1) and 120(h)(3), requires that each deed the parties enter into for the property transfer include a notice of the type and quantity of hazardous substances stored, released, or disposed of at the site and the times the events took place. The requirement for notice applies only when (1) hazardous substances are or have been stored in quantities greater than or equal to either 1,000 kilograms or the CERCLA reportable quantity for the particular hazardous substance, whichever is greater, or (2) the hazardous substances are or have been released in quantities greater than or equal to the CERCLA reportable quantity. Under CERCLA, each hazardous substance is evaluated separately to determine whether the quantity exceeds the CERCLA reportable quantity.

HPS was declared an inactive facility in 1974 and was placed in reserve; therefore, the available records on historical operation and on storage of hazardous substances are sparse and sporadic in their coverage. It is likely substances that would now be considered hazardous under CERCLA may have been stored in Parcel A. Table 7 lists hazardous substances known to be stored in buildings at Parcel A between 1942 and 2001. These substances were removed and disposed of. A final survey and removal of containerized hazardous substances (such as paint cans and gas cylinders) was conducted in 2001 (IT 2001a). No information is available about the quantities or length of time the hazardous substances listed in Table 7 were stored at Parcel A. A 1997 survey provided current data on the status of hazardous substances stored by Navy tenants that lease buildings at HPS. Table 8 lists hazardous substances (and estimated quantities) found at Parcel A during the 1997 tenant survey.

There are known releases of hazardous substances at Parcel A associated with the use of spent ABM as bedding for pipelines at IR-59 JAI. In addition, pesticides were found in soil in the vicinity of IR-59 JAI. ABM and pesticide-contaminated soils were removed as discussed in Sections 5.1.1 and 5.2.4. The quantities of hazardous substances released and subsequently removed at Parcel A are not known; however, the types of hazardous substances detected are provided in Table 9. Table 9, Hazardous Substance Notice, will be included in the deed as an attachment.

7.0 ADDITIONAL DEED CONTENTS

Parcel A is deemed suitable to transfer and will be transferred in accordance with federal real property disposal laws. The deed will contain the deed covenant required by Section 120(h)(3) of CERCLA, which is summarized below.

Covenant

> Under Title 42 of the USC Section 9620(h)(3), with respect to any portion of the Real Property on which any hazardous substance was stored for 1 year or more, known to have been released, or disposed of:

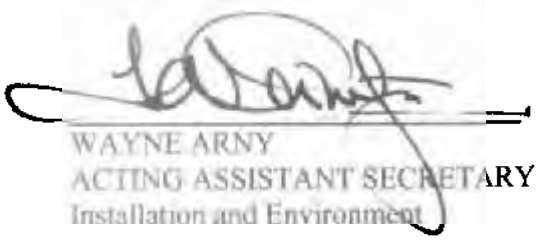
(A) The Grantor covenants that all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the Property has been taken before the date of transfer to the Grantee; and

(B) Any additional remedial action found to be necessary after the date of such transfer shall be conducted by the Grantor; and

(C) Grantee covenants that Grantor, including all Federal agencies and specifically EPA, shall have access to the Property in any case in which remedial or corrective action is found to be necessary after the date of such transfer.

8.0 CONCLUSIONS

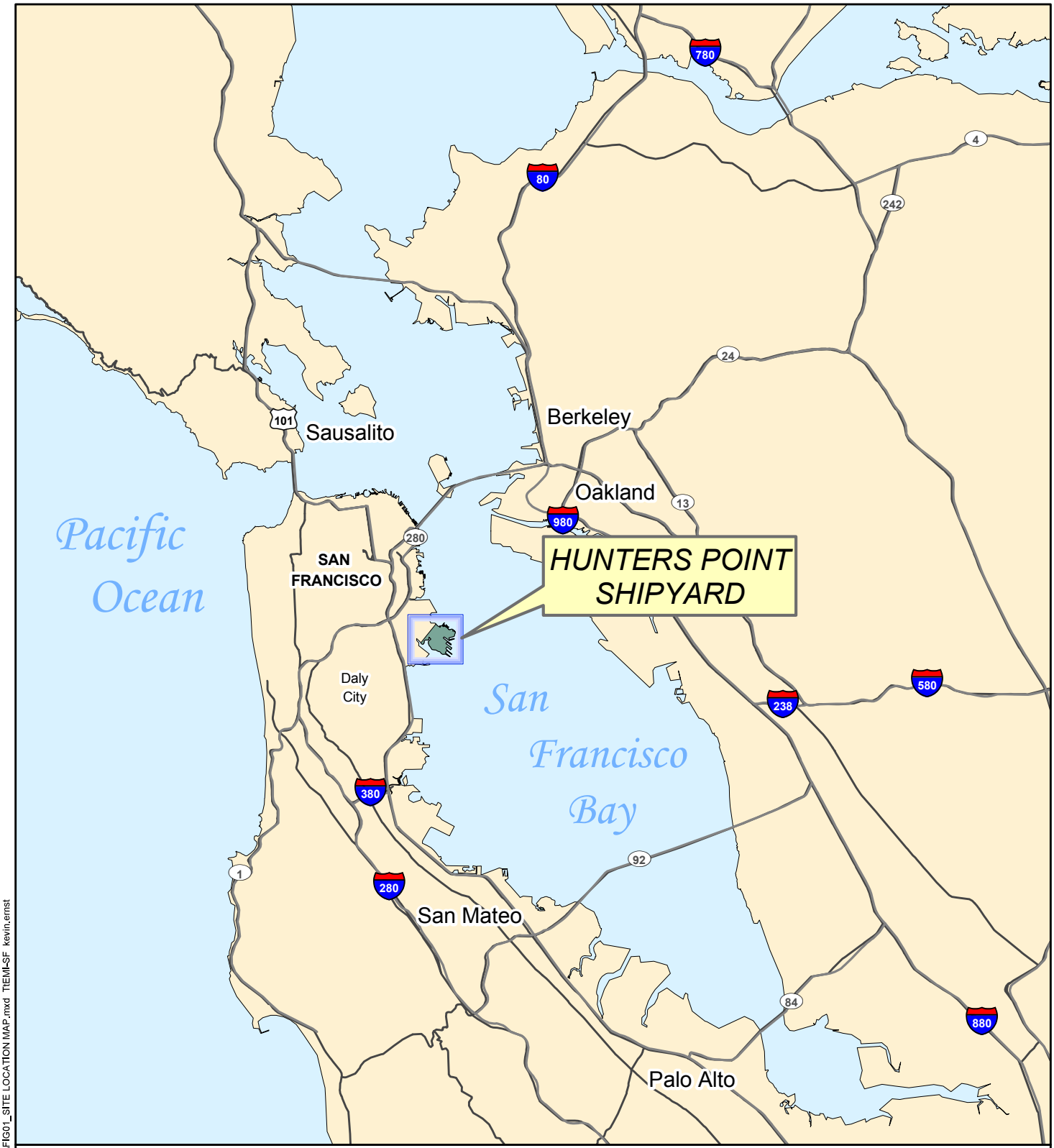
Based on the above information, I find that the Parcel A property is environmentally suitable to transfer by deed under Section 120(h) of CERCLA (42 USC Section 9620(h)).



WAYNE ARNY
ACTING ASSISTANT SECRETARY OF THE NAVY
Installation and Environment

10/14/04
Date

FIGURES



Location Map

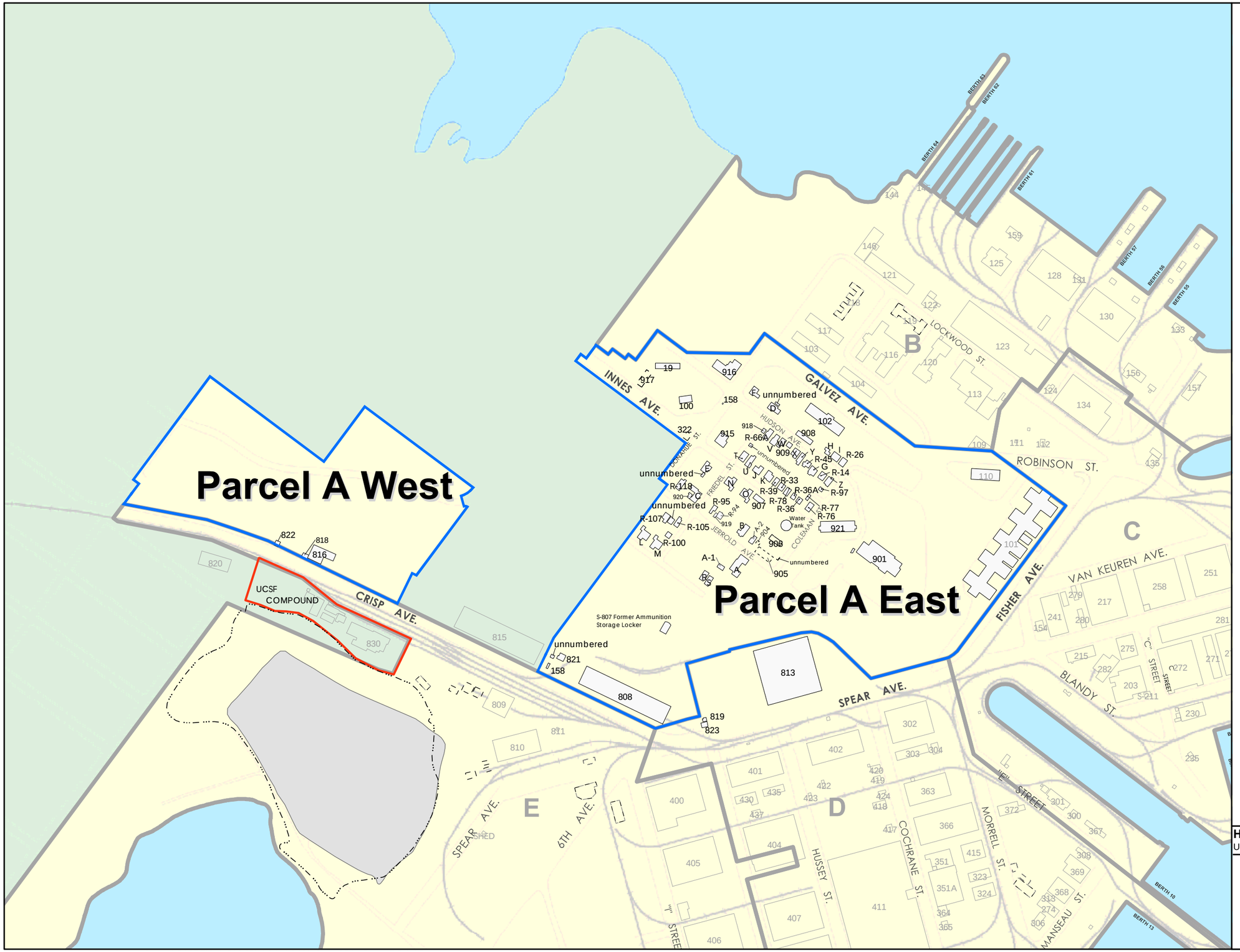
Tetra Tech EM Inc.

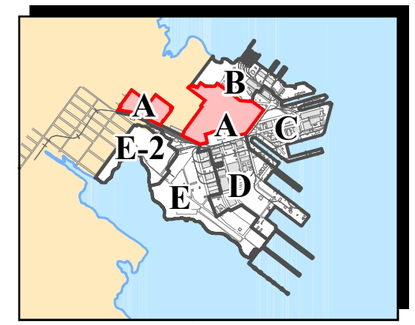
Hunters Point Shipyard, San Francisco, California
U.S. Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 1
SITE LOCATION MAP

Finding of Suitability to Transfer for Parcel A
(Revision 3)

2004-04-09 V:\Hunters Point\Projects\Parcel A\FOST\FIG01_SITE LOCATION MAP.mxd TtEMI-SF kevin.ernst





Location Map

BOUNDARY MODIFICATIONS

- PROPOSED PARCEL A BOUNDARY REVISION
- PARCEL B, C, D, AND E BOUNDARIES
- BUILDING
- DEMOLISHED BUILDING
- NON-NAVY PROPERTY
- LANDFILL- CAP EXTENT
- LANDFILL- EXTENT OF DEBRIS
- UCSF COMPOUND
- ROAD
- RAIL LINE

Notes:
UCSF University of California, San Francisco

400 0 400

Scale in Feet

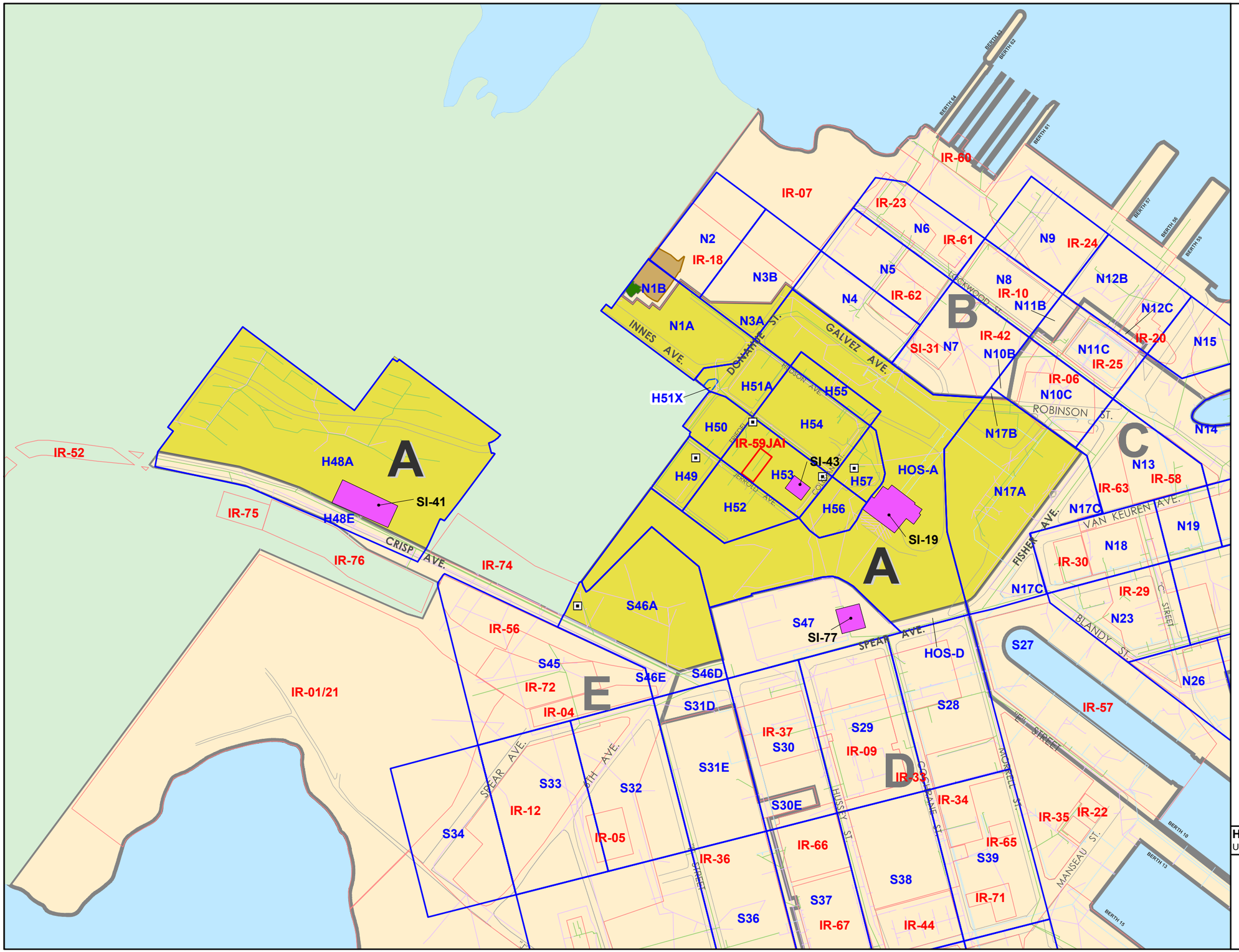
Tetra Tech EM Inc.

Hunters Point Shipyard, San Francisco, California
U.S. Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 2
PARCEL A MAP

Finding of Suitability to Tranfer for Parcel A
Revision 3

2004-04-09 V:\Hunters Point\Projects\Parcel A\FOST\FIG02_PARCEL A BOUNDARY CHANGE MAP.mxd TtEMI-SF kevin.ernst



Location Map

- TRANSFORMER SITE (SI-51)
- STORM DRAIN LINE (SI-50)
- STEAM LINE (SI-45)
- ROAD
- SANITARY SEWER LINE (SI-50)
- PARCEL A
- 2001 EXCAVATION
- 1998-1999 EXCAVATION
- PARCELS B, C, D AND E BOUNDARY
- SUBPARCEL
- SI SITE
- IR SITE BOUNDARY

Notes:

HPS Hunters Point Shipyard
IR Installation Restoration
JAI Jerrold Avenue Restoration
SI Site inspection

N

400 0 400
Scale in Feet

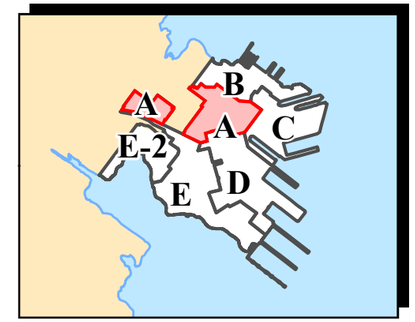
Tetra Tech EM Inc.

Hunters Point Shipyard, San Francisco, California
U.S. Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 3
HPS SUBPARCEL UNITS AND IR SITES

Finding of Suitability to Transfer for Parcel A
(Revision 3)

2004-04-09 V:\Hunters Point\Projects\Parcel A\FOST\FIG03_SUBPARCELS AND IR SITES.mxd TtEMI-SF kevin.ernst



Location Map

- TRANSFORMER SITE (SI-51)
- PARCEL A BOUNDARY
- SI SITE
- IR SITE BOUNDARY
- SANITARY SEWER LINE (SI-50)
- STEAM LINE (SI-45)
- STORM DRAIN LINE (SI-50)
- FACILITY BOUNDARY

Notes: An additional site, IR-59 groundwater, underlies the entire parcel shown.

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
IR	Installation Restoration
JAI	Jerrold Avenue Investigation
SI	Site inspection

Date of Aerial Photograph: June 2000

N

400 0 400

Scale in Feet

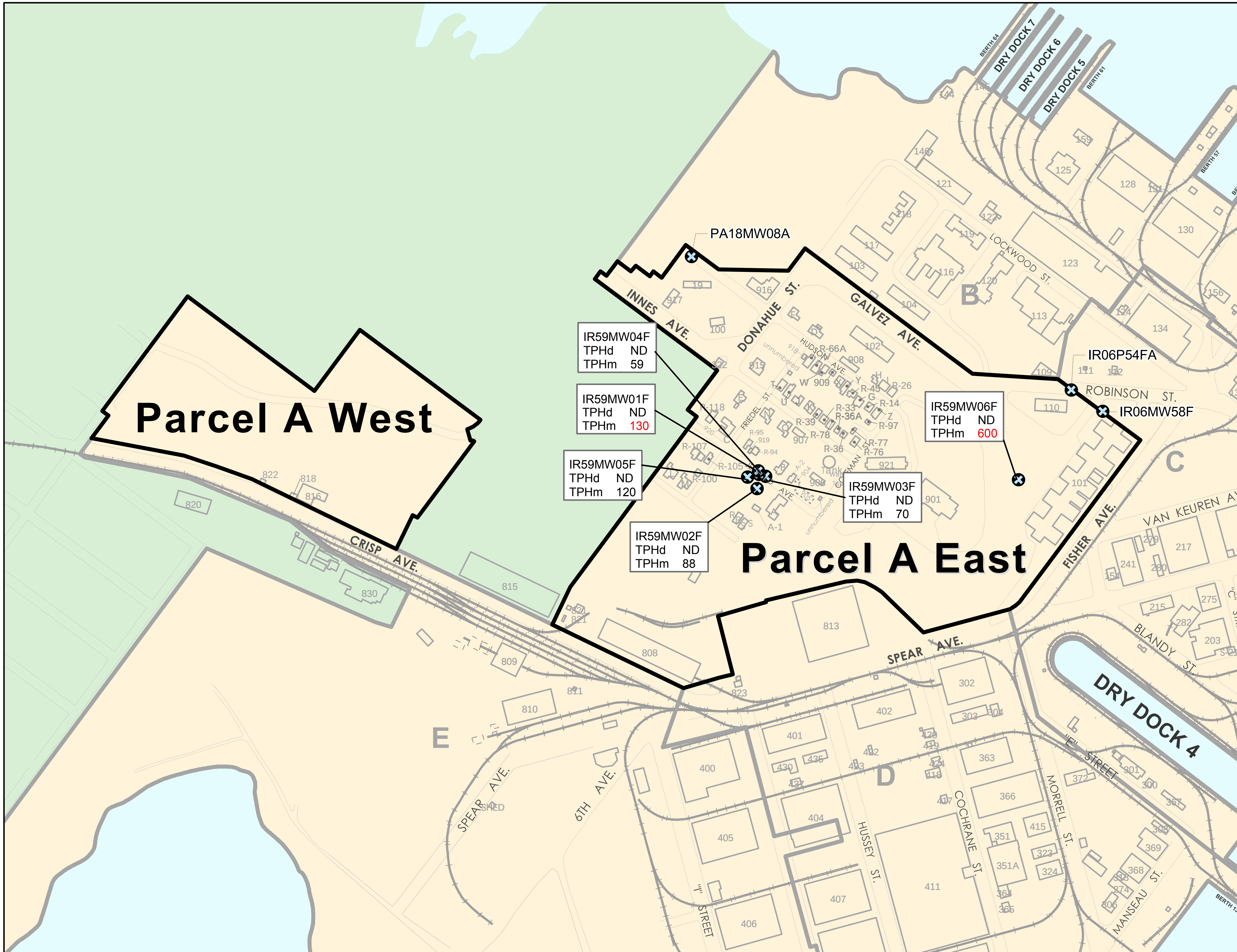
Tetra Tech EM Inc.

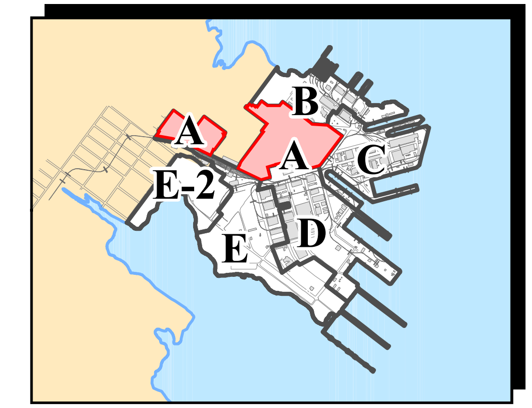
Hunters Point Shipyard, San Francisco, California
U.S. Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 4
PARCEL A CERCLA SITES

Finding of Suitability to Transfer for Parcel A
(Revision 3)

2004-02-24 V:\Hunters Point\Projects\Parcel A\FOST\FIG04_CERCLA SITES.mxd TtEMI-SF kevin.ernst





Location Map

DECOMMISSIONED WELLS
PARCEL A BOUNDARY
PARCEL B, C, D, AND E BOUNDARIES
DEMOLISHED BUILDINGS
<all other values>

status

Demolished
NON-NAVY PROPERTY
ROAD
RAIL LINE

Source:
PRC. 1995. "DRAFT FINAL PARCEL A REMEDIAL INVESTIGATION REPORT." SEPTEMBER 22.

Notes:
TPHd Total petroleum hydrocarbons - motor oil
TPHm Total petroleum hydrocarbons - diesel

N

400 0 400
Scale in Feet

Tetra Tech EM Inc.

Hunters Point Shipyard, San Francisco, California
U.S. Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 5
PARCEL A MONITORING WELLS LOCATIONS

Finding of Suitability to Transfer for Parcel A
Revision 3

2004-04-09 V:\Hunters Point\Projects\Parcel A\FOST\FIG05_WELL STATUS AND LOCATIONS.mxd TtEMI-SF kevin.ernst

TABLES

TABLE 1: PARCEL A BUILDINGS

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Building No.	Subparcel	Past Navy Use	Current Navy Use	Current Tenant
19	N1[a]	Apartment building	None	None
100	N1[a]	Main electrical substation for Navy power	None	None
101	N17[a]	Administration office, blueprint shop	Art activities and office space	SFRA/D. Terzian
102	HOS[a]	Old post office	None	None
110	N17[a]	Marine barracks	Art activities	SFRA/D. Terzian
158	H51	Sentry House - Main Gate	Sentry House - Main Gate	EFA WEST
322(d)	H51	Security guard and pass office	N/A	N/A
808	S46[a]	Industrial storehouse	Copier paper and toner cartridge distribution center	Precision Transport
816	H48[a]	NRDL high voltage accelerator/laboratory	None	None
818	H48[a]	Chlorination plant	None	None
821	S46[a]	X-ray shield facility, substation shield	None	None
822	H48[a]	Sentry house	None	None
901	HOS[a]	Officers club	None	None
904 (d)	H53	Green house – glass	N/A	N/A
915 (d)	H53	Green house – wooden lattice	N/A	N/A
906 (d)	H53	Gardening tool house	N/A	N/A
907	H53	Unknown	None	None
908	H55	Car garage	None	None
909	H54	Garages – 2 cars	None	None
915	H51	Bank	Offices	SFRA
916	N3[a]	CPO mess, package liquor store	Restaurant	Dago Mary's Restaurant
917 (d)	N1A	Grocery store	N/A	N/A
918	H54	Garage	None	None

TABLE 1: PARCEL A BUILDINGS (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Building No.	Subparcel	Past Navy Use	Current Navy Use	Current Tenant
919	H53	Garage	None	None
920	H50	Garage	None	None
921	H57	Bachelors Officers Quarters	None	None
A	H52	Residence	None	None
A-1	H52	Residence	None	None
A-2	H53	Residence	None	None
B	H53	Residence	None	None
C	H50	Residence	None	None
D	H55	Residence	None	None
E	H50	Residence	None	SFRA
F	HOS-A	Residence	None	None
G	H54	Residence	None	None
H	H55	Residence	None	None
I	H55	Residence	None	None
J	H54	Residence	None	None
K	H54	Residence	None	None
L	H49	Residence	None	None
M	H49	Residence	None	None
N	H53	Residence	None	None
O	H53	Residence	None	None
R	H52	Residence	None	None
R-14	H54	Residence	None	None
R-26	H55	Residence	None	None
R-33	H54	Residence	None	None
R-36	H54	Residence	None	None

TABLE 1: PARCEL A BUILDINGS (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Building No.	Subparcel	Past Navy Use	Current Navy Use	Current Tenant
R-36A	H54	Residence	None	None
R-39	H54	Residence	None	None
R-45	H54	Residence	None	None
R-66A	H54	Residence	None	None
R-76	H54	Residence	None	None
R-77	H54	Residence	None	None
R-78	H54	Residence	None	None
R-94	H53	Residence	None	None
R-95	H53	Residence	None	None
R-97	H54	Residence	None	None
R-100	H49	Residence	None	None
R-105	H49	Residence	None	None
R-107	H49	Residence	None	None
R-118	H50	Residence	None	None
S	H52	Residence	None	None
S-807	S46[a]	Small caliber munitions storage	None	None
T	H54	Residence	None	None
U	H54	Residence	None	None
V	H54	Residence	None	None
W	H54	Residence	None	None
X	H54	Residence	None	None
Y	H54	Residence	None	None
Z	H54	Residence	None	None
Unnumbered	H52	Residence	None	None
Unnumbered	H54	Garage for residence	None	None

TABLE 1: PARCEL A BUILDINGS (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Building No.	Subparcel	Past Navy Use	Current Navy Use	Current Tenant
Unnumbered (d)	H53	Portable roofed storage cage	None	None
Unnumbered	H49	Unknown	None	None
Unnumbered	HOS-A	Unknown	None	None
Unnumbered	HOS-A	Unknown	None	None
Unnumbered	H50	Unknown	None	None
Unnumbered	S46A	Unknown	None	None
Water Tank	H53	Water storage	None	None

Notes:

a	Subparcel straddles more than one parcel (for example, Parcels A and C); building is located in the Parcel A portion of the subparcel
CPO	Chief Petty Officer
(d)	Building demolished
EFA WEST	Naval Facilities Engineering Command, Engineering Field Activity West
Navy	U.S. Department of the Navy
N/A	Not applicable
NRDL	Naval Radiological Defense Laboratory
SFRA	San Francisco Redevelopment Agency

TABLE 2: PARCEL A SUBPARCEL UNITS

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Subparcel	Building Number and Other Structure	IR/SI Site	UST	Transformer Site
H48A	816, 818, and 822	SI-41	None	No
H49	L, M, R-100, R-105, R-107, and unnumbered building	None	None	Yes
H50	C, E, R-118, and unnumbered building	None	None	No
H51	158, former 322(d), and 915	None	None	No
H52	A, A-1, R, S	None	None	No
H53	904(d), 905(d), 906(d), 907, 919, A-2, B, N, O, R-94, R-95, water tank, and unnumbered storage cage	IR-59 JAI/SI-43	None	Yes
H54	909, 918, G, J, K, R-14, R-33, R-36, R-36A, R-39, R-45, R-66A, R-76, R-77, R-78, R-97, T, U, V, W, X, Y, Z, and unnumbered garage	None	None	No
H55	908, D, H, I, and R-26	None	None	No
H56	None	None	None	No
H57	921	None	None	Yes
HOS-A	102, 901, and F	SI-19	None	No
N1A	19, 917(d), and 100	None	None	No
N3A	916	None	None	No
N17A	101 and 110	None	None	No
S46A	S-807, 808, 821, and two unnumbered buildings	None	None	Yes

Notes:

(d)	Building demolished
IR	Installation Restoration
JAI	Jerrold Avenue Investigation
SI	Site inspection
UST	Underground storage tank

TABLE 3: SUBPARCEL UNITS AFFECTED BY 2004 PROPERTY BOUNDARY REVISION

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Subparcel	Site Feature Excluded from Parcel A – Based on 2004 Property Boundary Revision			Note
	Building Number	IR/SI Site	UST	
HOS[a]	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Spear Avenue; this portion of the subparcel (HOS-D) is now part of Parcel D.
N13	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Fisher Avenue; this subparcel is now located entirely in Parcel C.
N17[a]	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Fisher Avenue; this portion of the subparcel (N17C) is now part of Parcel C.
N18	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Fisher Avenue; this subparcel is now located entirely in Parcel C.
S27	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Fisher and Spear Avenues; this subparcel is now located entirely in Parcel C.
S28	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Spear Avenue; these subparcels are now located entirely in Parcel D.
S29	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Spear Avenue; this subparcel is now located in Parcel D.
S30	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Spear Avenue; this subparcel is now located in Parcels D and E.
S31	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Spear and Crisp Avenues; this subparcel is now located in Parcels D and E.
S46[a]	None	IR-50	None	Radiological scoping survey to be performed along sanitary sewer main line along Spear and Crisp Avenues; this portion of the subparcel is now part of Parcels D and E.

TABLE 3: SUBPARCEL UNITS AFFECTED BY 2004 PROPERTY BOUNDARY REVISION (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Subparcel	Site Feature Excluded from Parcel A – Based on 2004 Property Boundary Revision			Note
	Building Number	IR/SI Site	UST	
S47	813, 819, 823	IR-50, SI-77	S-812	Radiological scoping survey to be performed at Buildings 813 and 819, and along sanitary sewer main line along Spear Avenue; this subparcel is now located entirely in Parcel D.

Notes:

a Portion of subparcel remains in Parcel A

IR Installation Restoration
SI Site inspection
UST Underground storage tank

TABLE 4: ECP AREA TYPE CLASSIFICATIONS AND RATIONALES

Finding of Suitability to Transfer or Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Subparcel	Parcel	Building and/or IR/SI Site	UST	Asbestos or Radiation	Previous DoD Category[a]	ECP Area Type Category[b]	Rationale[c]
H48A	A	816, 818, 822, and SI-41	None	None	4	4	Hazardous substances were stored in this subparcel. All response actions have been taken. This subparcel is available for transfer.
H49	A	L, M, R-100, R-105, and R-107, unnumbered building	None	A	2	1	This subparcel was exclusively residential. This subparcel is available for transfer.
H50	A	C, E, R-118, unnumbered building	None	A	2	1	This subparcel was exclusively residential. This subparcel is available for transfer.
H51	A	158, former 322(d), and 915	None	A	2	1	This subparcel was partly residential, partly commercial business. This subparcel is available for transfer.
H52	A	A, A-1, R, S	None	A	2	2	This subparcel was exclusively residential. Petroleum hydrocarbons were detected in groundwater underlying this subparcel at concentrations below action levels. This subparcel is available for transfer.
H53	A	904(d), 905(d), 906(d), 907, 919, A-2, B, N, O, R-94, R-95, water tank, unnumbered, IR-59 JAI, and SI-43	None	A	4	4	Hazardous substances were released to the environment. All response actions have been taken. This subparcel is available for transfer.
H54	A	909, 918, G, J, K, R-14, R-33, R-36, R-36A, R-39, R-45, R-66A, R-76, R-77, R-78, R-97, T, U, V, W, X, Y, Z, unnumbered	None	A	2	1	This subparcel was exclusively residential. This subparcel is available for transfer.

TABLE 4: ECP AREA TYPE CLASSIFICATIONS AND RATIONALES (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Subparcel	Parcel	Building and/or IR/SI Site	UST	Asbestos or Radiation	Previous DoD Category[a]	ECP Area Type Category[b]	Rationale[c]
H55	A	908, D, H, I, and R-26	None	A	2	1	This subparcel was exclusively residential. This subparcel is available for transfer.
H56	A	None	None	None	1	1	This subparcel is undeveloped, and no release (including migration) or disposal of hazardous substances has occurred. This subparcel is available for transfer.
H57	A	921	None	A	2	1	This subparcel was exclusively residential. This subparcel is available for transfer.
HOS-A	A	102, 901, F, and SI-19	None	A	4	4	Undeveloped areas and Building 102 (in Parcel A) are category 1 because no release (including migration) or disposal of hazardous substances has occurred. The areas surrounding Building 901 (in Parcel A) are category 4 because hazardous substances were stored and released there, but response actions are complete. This subparcel is available for transfer.
N1A	A	19, 917(d), and 100	None	None	1	1	Most of the area is a paved parking lot. This subparcel is category 1 because no release (including migration) or disposal of hazardous substances has occurred. This subparcel is available for transfer.
N3A	A	Dago Mary's Restaurant (916)	None	None	1	1	This subparcel is category 1 because no release (including migration) or disposal of hazardous substances has occurred. This subparcel is available for transfer.
N17A	A	101 and 110	None	None	2	2	This subparcel contains no IR/SI sites, only office buildings. Hazardous substances were stored in Buildings 101 and 110 but were used only for commercial purposes; no release (including migration) or disposal of hazardous substances has occurred. This subparcel is category 2 because petroleum hydrocarbons were detected in groundwater underlying this subparcel at concentrations below action levels. This subparcel is available for transfer.

TABLE 4: ECP AREA TYPE CLASSIFICATIONS AND RATIONALES (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Subparcel	Parcel	Building and/or IR/SI Site	UST	Asbestos or Radiation	Previous DoD Category[a]	ECP Area Type Category[b]	Rationale[c]
S46A	A	S-807, 808, 821, two unnumbered buildings	None	R	6	1	Hazardous substances were stored at Building 808, but no release (including migration) or disposal of hazardous substances has occurred. This subparcel is available for transfer.

Notes:

a Categorization presented in the draft Parcel A finding of suitability to transfer based on the 1993 DoD document, "Standard Classification of Environmental Condition of Property Area Types."

b Subparcels that lie partially in Parcel A and partially in other parcels underwent additional evaluations to assign the ECP categorization for the Parcel A portion of the subparcel. For each subparcel, the remedial investigation and, where applicable, feasibility study reports for the relevant parcels were reviewed to ensure that the portion of the subparcel within the boundary of Parcel A (1) was not affected by release or disposal of hazardous substances, (2) does not contain suspected source areas or IR sites from adjacent parcels, and (3) will not be affected by the migration of hazardous substances in soil or groundwater from adjacent parcels.

c IR/SI sites may be in one or more parcels or subparcels. The rationale for any one subparcel pertains to the areas of IR/SI sites contained within that subparcel only. DoD ECP categories within subparcels may differ, but the most conservative category identified in the subparcel is assumed as the overall subparcel category.

A Asbestos
(d) Demolished
DoD U.S. Department of Defense
ECP Environmental condition of property
IR Installation Restoration
JAI Jerrold Avenue Investigation
R Radiation impacted
SI Site inspection
UST Underground storage tank

Source:

Tetra Tech EM Inc. 1998. "Final Basewide Environmental Baseline Survey, Revision 01, Hunters Point Shipyard, San Francisco, California." September 4.

TABLE 5: ENVIRONMENTAL FACTORS CONSIDERED

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Property Classification Factors (Section 5.1)	Status of Factor Requires a Deed Restriction?[a]
Hazardous Substances/Petroleum Wastes	No
Installation Restoration Program and Areas of Concern	No
Aboveground Storage Tanks	No
Underground Storage Tanks	No
Hydrant Fueling/Piping Systems	No
Other Tanks	No
Sanitary Sewer System	No
Oil-Water Separators	No
Septic Tank Systems	No
Silver Recovery Systems	No
Pesticides/Herbicides	No
Ordnance	No
Medical/Biohazardous Wastes	No
Radioactive and Mixed Wastes	No
Mercury	No
Other	No
Other Related Factors (Sections 5.2 and 5.3)	**Transfer Would Affect Deed Restrictions?**
Asbestos	Yes
Lead-Based Paint	Yes
Polychlorinated Biphenyls	No
Radon	No
Drinking Water Quality	No
Indoor Air Quality	No
Transportation	No
Wastewater	No
Energy	No
Solid Waste	No
Threatened/Endangered Species	No
Sensitive Habitat	No
Outdoor Air Quality	No

TABLE 5: ENVIRONMENTAL FACTORS CONSIDERED (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Other Related Factors (Sections 5.2 and 5.3)	Transfer Would Affect Deed Restrictions?
Air Conformity/Air Permits	No
Wetlands	No
Floodplains	No
Historic Properties	No
Archaeological/Prehistoric/Native American	No
Paleontological	No
Prime/Unique Farmlands	No
Abrasive blast material	No

Note:

a No deed restrictions are required; however, as stated in the 1995 Parcel A record of decision, the U.S. Department of the Navy intends to include in the deed a notification that alerts future users of Parcel A that low levels of motor oil were detected in groundwater.

TABLE 6: SUMMARY OF SITE INSPECTION RESULTS FOR PARCEL A

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Site Description	SI Designation	Constituents Detected During Site Inspections	Risk Assessment Results
Building 901 Parking Meridians	SI-19	SVOCs Pesticides PCBs Petroleum hydrocarbons Metals	Soil characterized during the investigation[a] by excavation was replaced with clean soil. Soils remaining do not pose a threat to human health or the environment.
Buildings 816 and 818	SI-41	VOCs SVOCs Petroleum hydrocarbons Metals	Soil characterized during the investigation[a] by excavation was replaced with clean soil. Soils remaining do not pose a threat to human health or the environment.
Former Building 906	SI-43	VOCs SVOCs Pesticides Herbicides PCBs Petroleum hydrocarbons Metals	Soil characterized during the investigation[a] by excavation was replaced with clean soil. Soils remaining do not pose a threat to human health or the environment.
Steam Lines	SI-45	No contamination	No threat to human health or the environment
Storm Drains and Sanitary Sewer System	SI-50	Pesticides Herbicides	No threat to human health or the environment
Transformers	SI-51	No contamination	No threat to human health or the environment
Jerrold Avenue Investigation	IR-59 JAI	Pesticides SVOCs Petroleum hydrocarbons Metals	Soils containing abrasive blast material encountered during the investigation[a] by excavation were replaced with clean soil. Replacement soil does not pose a threat to human health or the environment.

Notes:

a An investigation technique combining soil excavation and site characterization

JAI Jerrold Avenue Investigation
PCB Polychlorinated biphenyl
SI Site inspection
SVOC Semivolatile organic compound
VOC Volatile organic compound

TABLE 7: HAZARDOUS SUBSTANCES INVENTORY INFORMATION FROM 1942 TO 2001

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Building	Past Department of the Navy Use	Hazardous Substances Stored[a]
100	Main Electrical Substation	Transformers and batteries
101	Reproduction Department and Administrative Office	Hydrogen peroxide, ammonia, and photo-developer solutions and various chemicals washed off print paper
322(d)	Naval Radiological Defense Laboratory	Unknown
808	Industrial Storehouse	JP-5 (jet petroleum), paints and primers, coatings, various paints, epoxy, batteries, waste oil, ethylene glycol, sodium chlorate/benzium peroxide, dichloroethane, and small caliber munitions
816	Naval Radiological Defense Laboratory	Liquid waste, pine tar, oil, styrene, tritium targets, and tritiated thymidine[b]
818	Chlorinating Plant	Nonflammable and chlorine gas
821	X-Ray Shield Facility Substation	Compressed gases
901	Commissioned Officers' Mess	White powder, asbestos, gas cylinder, cleaner, paint, and abrasive blast material
906 (d)	Gardening Tool House	Pesticides
S-807	Small Munitions Storage Locker	Compressed gases [c]
Electrical Substation F	Electrical Substation	Polychlorinated biphenyls

Notes:

a Quantities of hazardous substances were not recorded.

b Source: PRC Environmental Management, Inc. and Normandeau Associates. 1993.

c Source: IT Corporation. 2001b.

(d) Building demolished

Source:

Tetra Tech EM Inc. 1998. "Final Basewide Environmental Baseline Survey, Revision 01, Hunters Point Shipyard, San Francisco, California." September 4.

TABLE 8: HAZARDOUS SUBSTANCES INVENTORY INFORMATION FROM THE 1997 NAVY TENANT SURVEY[a]

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Building	Tenant	Hazardous Substance	Estimated Quantity[b] (kilograms)
Building 101	Subtenant - D. Terzian (artisan)/SFRA	Paints	1,375
		Solvents	577.3
		Petroleum hydrocarbons	114.6
		Adhesives/sealants	98
		Aerosol sprays, miscellaneous	6.8
		Photochemical solutions	95
		Stains, water-based	10.2
		WD-40	0.57
Building 110	Subtenant - D. Terzian (artisan)/SFRA	Paints	105.6
		Petroleum hydrocarbons	1.7
		Photochemical solutions	34.5
Building 808	Precision Transport	Petroleum hydrocarbons	272
Building 916	Dago Mary's Restaurant	Cleaning products	34.7

Notes:

a A detailed description of the 1997 tenant survey is presented in Revision 1 of the Tetra Tech EM Inc. document, "Final Basewide Environmental Baseline Survey, Revision 01, Hunters Point Shipyard, San Francisco, California," dated September 4, 1998.

b Quantities of hazardous substances and petroleum hydrocarbons present at buildings are estimated based on the following assumptions: (1) all substances observed during the tenant survey are hazardous substances, and (2) all hazardous substances are pure substances.

SFRA San Francisco Redevelopment Authority

TABLE 9: HAZARDOUS SUBSTANCE NOTICE

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

The information contained in this notice is required under the authority of regulations promulgated under Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 "Superfund," Title 42 of the *United States Code* Section 9620(h)

Location	Substance	Chemical Abstract Service® Number	Regulatory Synonym	RCRA Waste	Reportable Quantity	Quantity	Units	Spill Date	S/R/D
SI-43 Gardening Tool House	Heptachlor epoxide	1024-57-3	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Heptachlor	76-44-8	N/A	P059	1 lb	N/A	N/A	N/A	R
	Endrin	72-20-8	N/A	P051	1 lb	N/A	N/A	N/A	R
	Endosulfan Sulfate	1031-07-8	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Dieldrin	60-57-1	N/A	P037	1 lb	N/A	N/A	N/A	R
	Aroclor-1260	11096-82-5	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Chlordane, Alpha and Gamma	57-74-9	N/A	U036	1 LB	NA	NA	NA	R
	4,4'-DDT	50293	N/A	U061	1 lb	N/A	N/A	N/A	R
	4,4'-DDE	72549	N/A	N/A	1 lb	N/A	N/A	N/A	R
	4,4'-DDD	72548	N/A	U060	1 lb	N/A	N/A	N/A	R
	Lead	7439-92-1	N/A	N/A	10 lb	N/A	NA	NA	R
	Mercury	7439-97-6	N/A	U151	1 lb	N/A	NA	NA	R
	Nickel	7440-02-0	N/A	N/A	100 lb	N/A	NA	NA	R
SI-19 Parking Medians Near Building 901	Nickel	7440-02-0	N/A	N/A	100 lb	N/A	NA	NA	R

TABLE 9: HAZARDOUS SUBSTANCE NOTICE (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Location	Substance	Chemical Abstract Service® Number	Regulatory Synonym	RCRA Waste	Reportable Quantity	Quantity	Units	Spill Date	S/R/D
SI-19 Parking Medians Near Building 901	Mercury	7439-97-6	N/A	U151	1 lb	N/A	N/A	N/A	R
	Lead	7439-92-1	N/A	N/A	10 lb	N/A	N/A	N/A	R
	Heptachlor	76-44-8	N/A	P059	1 lb	N/A	N/A	N/A	R
	Lindane	58-89-9	N/A	N/A	10 lb	N/A	N/A	N/A	R
	Endrin	72-20-8	N/A	P051	1 lb	N/A	N/A	N/A	R
	Endosulfan	115-29-7	N/A	N/A	100 lb	N/A	N/A	N/A	R
	Dieldrin	60-57-1	N/A	P037	1 lb	N/A	N/A	N/A	R
	Aroclor-1260	11096-82-5	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Aroclor-1254	11097-69-1	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Chlordane, Alpha and Gamma	57-74-9	N/A	U036	1 lb	N/A	N/A	N/A	R
	4,4'-DDT	50293	N/A	U061	1 lb	N/A	N/A	N/A	R
	4,4'-DDE	72549	N/A	N/A	1 lb	N/A	N/A	N/A	R
	4,4'-DDD	72548	N/A	U060	1 lb	N/A	N/A	N/A	R
SI-41 Building 816, 818 and Chlorination Plant	Nickel	7440-02-0	N/A	N/A	100 lb	N/A	N/A	N/A	R
	Mercury	7439-97-6	N/A	U151	1 lb	N/A	N/A	N/A	R
	Lead	7439-92-1	N/A	N/A	10 lb	N/A	N/A	N/A	R
	Xylenes	1330-20-7	N/A	U239	100 lb	N/A	N/A	N/A	R
	Tetrachloroethene	127-18-4	N/A	U210	100 lb	N/A	N/A	N/A	R

TABLE 9: HAZARDOUS SUBSTANCE NOTICE (Continued)

Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard, San Francisco, California

Location	Substance	Chemical Abstract Service® Number	Regulatory Synonym	RCRA Waste	Reportable Quantity	Quantity	Units	Spill Date	S/R/D
SI-50 Sanitary Sewers	Endrin Aldehyde	7421-93-4	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Dichloropropane	26638-19-7	N/A	N/A	1,000 lb	N/A	N/A	N/A	R
	Heptachlor epoxide	1024-57-3	N/A	N/A	1 lb	N/A	N/A	N/A	R
	4,4'-DDT	50293	N/A	U061	1 lb	N/A	N/A	N/A	R
	2,4,5 Trichlorophenol	95-95-4	N/A	F027	10 lb	N/A	N/A	N/A	R
IR-59JAI	Arsenic	7440382	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Barium	N/A	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Benzo(a)pyrene	50328	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Chromium (not speciated)	7440473	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Cobalt	N/A	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Copper	7440508	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Lead	7439921	N/A	N/A	1 lb	N/A	N/A	N/A	R
	Manganese	15339363	N/A	N/A	1 lb	N/A	N/A	N/A	R
	4,4'-DDD	72548	N/A	U060	1 lb	N/A	N/A	N/A	R
	4,4'-DDE	72549	N/A	N/A	1 lb	N/A	N/A	N/A	R
	4,4'-DDT	50293	N/A	U061	1 lb	N/A	N/A	N/A	R

Notes:

D	Disposed	N/A	Not available
DDD	Dichlorodiphenyltrichloroethane	R	Released
DDE	Dichlorodiphenyltrichloroethane	RCRA	Resource Conservation and Recovery Act
DDT	Dichlorodiphenyltrichloroethane	S	Stored

APPENDIX A
UNRESOLVED REGULATORY AGENCY COMMENTS

DRAFT FINAL FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A (REVISION 3)
UNRESOLVED COMMENTS FROM DTSC
OCTOBER 4, 2004

15. Section 5.3.2, Lead-Based Paint: Legal Authority

The DTSC and the Navy continue to disagree on the legal authority for regulating releases of lead to the soil from lead based paint. It is DTSC's position that releases of lead to the soil is a CERCLA release and that CERCLA section 120 requires that the Navy, in this case, covenant that all remedial action necessary to protect human health and the environment has been taken.

16. Section 5.3.2, Lead-Based Paint: Deed Restriction

There are three outstanding issues regarding DTSC comment number 16 that keeps that comment unresolved. The three issues are discussed below.

The DTSC does not distinguish between lead released to the soil from residential structures or non-residential structures. All structures that have the potential for releasing lead to soil in areas to be developed for residential reuse should be addressed through policies and procedures governing the investigation and the transfer of military property to civilian use. Specifically, Title X, the Parcel A FOST Lead-Based Paint deed restriction, and the joint Department of Defense and EPA 1999 Lead-Based Paint Guidelines for Disposal of Department of Defense Residential Property do not adequately address the potential release of lead-based paint from non-residential structures (e.g., commercial or industrial buildings). Non-residential structures are specifically exempt from the joint DoD and EPA guidelines (page 4). The joint DoD and EPA guidelines do reference metal structures such as water tanks; therefore, DTSC concern with the water tank on Parcel A is resolved.

Secondly, previously demolished structures are not addressed in Title X, the Parcel A FOST deed restriction, nor in the joint DoD and EPA guidelines. 1940 era residential structures in Parcel A West were demolished during the late 1960s. Soil sampling for the purpose of determining if lead-based paint had been released to the soil has never been completed for this past residential property.

Finally, the deed restriction requires that, "The grantee shall conduct soil sampling and remediation after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units in a manner consistent with the joint DoD and EPA field guide." Although DTSC did not address this particular language of the deed restriction in our May 24, 2004 comment letter, DTSC has raised issues with this language in subsequent meetings and emails. The DTSC is concerned that the language in the deed restriction is not specific enough to direct the grantee as to when soil sampling shall be conducted. The DTSC would like the deed restriction language changed to specifically require that soil sampling must take place after demolition and removal of demolition debris and prior to any construction, including

grading. Any remediation of lead impacted soil should also be remediated prior to grading. Although the joint DoD and EPA guidance does acknowledge the need to conduct soil sampling after demolition of the existing target housing, the guidance remains unacceptably vague as to the specific window in which sampling must take place (page viii and figure 3-1). Therefore, the DoD and EPA guidance does not provide language that satisfies the DTSC's concern on this issue. For the three reasons expressed above, the DTSC comment number 16 remains unresolved.

ATTACHMENT 1
REVISED RESPONSES TO AGENCY COMMENTS ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A, DATED NOVEMBER 6, 1998

REVISED RESPONSE TO AGENCY COMMENTS
DRAFT FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

This document presents the U.S. Department of the Navy's (Navy) revised responses to comments from the regulatory agencies and the City and County of San Francisco Department of Public Health (SFDPH) on the draft finding of suitability to transfer (FOST) for Parcel A at Hunters Point Shipyard (HPS), dated June 24, 1996. The comments addressed in this document were received from the U.S. Environmental Protection Agency (EPA) on July 24, 1996; the California Department of Toxic Substances Control (DTSC) on July 24, 1996; and SFDPH on July 25 and November 14, 1996. The original Navy responses were submitted to EPA, DTSC, and the SFPDH on June 3, 1998. At the request of the SFDPH, responses to several SFDPH comments pertaining to lead-based paint have been revised; responses to EPA and DTSC comments are unchanged. The revised responses to the SFDPH comments were developed by EPA and the Navy in a collaborative process.

RESPONSE TO COMMENTS FROM EPA

1. Comment: **Please provide the legal description for Parcel A and a figure showing property boundaries.**

Response: The legal description will be included as Attachment 1 of the draft final Parcel A FOST. The property boundaries will be shown on Figure 1 of the draft final Parcel A FOST.

2. Comment: **Include a figure showing all subparcels and designating where subparcels N-1A, N-3A and S-46A lie.**

Response: Figure 2 will be updated to show subparcels N-1A, N-3A, N-17A, and S-46A.

3. Comment: **Include a figure that overlays Figure 3 from the Parcel A Record of Decision (ROD), which shows SI and IR sites, with Figure 2 from the Parcel A FOST so that it is evident that the boundaries and subparcel category designations are correctly assigned.**

Response: A mylar figure will be prepared to overlie Figure 2. The overlay will show the locations of the site inspection (SI) and installation restoration (IR) sites in Parcel A. The scale for Figure 2 will be changed to better depict Parcel A and more closely match Figure 3.

4. Comment: **Section 7.0 states that the deed for transfer will contain the notice required by CERCLA Section 120(h)(1), which provides notification of past storage. Please clarify whether the list provided in Section 7 is intended to provide notification of these substances. Please identify the location (EBS or FOST) where the list of substances can be found. Note that the list of substances should provide quantities stored, where known.**

Response: The Navy will provide language to comply with CERCLA 120(h) in the appropriate transfer documents. Section 6.0 of the draft Parcel A FOST discusses the notice of hazardous substances at Parcel A. Table 5 of the draft Parcel A FOST presents a list of hazardous substances found at Parcel A. Section 6.0 and Table 5 of the draft final Parcel A FOST will be updated to include information presented in the basewide environmental baseline survey (EBS), Revision 01, dated May 1, 1998. In addition, Table 6 will be added to the draft final Parcel A FOST. Table 6 will present a list of hazardous substances (and estimated quantities) found at Parcel A during a 1997 survey of Navy tenants. Quantities of hazardous substances were not recorded during previous surveys of Parcel A. The last sentence of Section 6.0 will be changed for clarification to state that "No information is available as to the quantities or length of time these substances were stored at Parcel A."

5. Comment: EPA is currently drafting a letter to the Navy that references the Record of Decision for Parcel A as being the decision document which demonstrates that the Navy has complied with CERCLA Section 120(h)(3). The ROD documents that all necessary remedial actions have been taken at the site.

Response: The Navy was notified in April 1998 that EPA had changed its position and would not submit a letter to the Navy designating the Parcel A Record of Decision (ROD) as the decision document that demonstrates that the Navy has complied with CERCLA Section 120(h)(3) and has taken all necessary remedial actions. EPA instead requested revision of Section 3.0 of the draft final Parcel A FOST to include this concurrence statement.

RESPONSE TO COMMENTS FROM DTSC

Specific Comments

1. Comment: Page 2, Section 4.0, National Environmental Policy Act (NEPA) Compliance. This section indicates that a joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) is currently being prepared. When is the anticipated completion date of the EIS/EIR and how will this affect the transfer?

Response: The draft EIS/EIR was submitted on November 14, 1997, and is currently being revised to incorporate public review comments. The EIS/EIR, which supports the transfer of Parcel A, will be completed before the transfer of Parcel A.

2. Comment: Page 2, Section 5.0, Environmental Baseline Survey Findings. Sub-parcels are listed in this section are not shown on the map in Figure 2 nor in the Base-wide Environmental Baseline Survey. This section also states that sub-parcels have been identified (i.e., N-3A) and that they "can be categorized as DOD category 1 property." The DTSC has never received this evaluation and therefore is unable to concur with the findings in this section.

Response: Figure 2 has been updated to show subparcels N-1A, N-3A, N-17A, and S-46A. These subparcels are discussed in Chapter 5 of Revision 01 of the final basewide EBS (see Sections 5.1.1.12, 5.1.1.13, 5.1.1.14, and 5.1.1.15). The Department of Defense Environmental Condition of Property (ECP) area types were designated for complete subparcels to suit the City of San Francisco's reuse plan. The City of San Francisco delineated for the Navy the anticipated shape of the subparcels for reuse purposes. Table 7-1 of Revision 01 of the final basewide EBS lists the buildings and IR sites that are located in each subparcel, as well as the ECP area type and classification rationale for each subparcel. The final basewide EBS was submitted to the regulatory agencies on June 3, 1996; Revision 01 of this document was submitted on May 1, 1998.

3. Comment: **<u>Page 4, Section 5.1.3, Storm Drain and Sanitary Sewer System</u>. Are there any remaining contaminated sediments in the storm drain system? Is the Navy going to monitor the storm drain system for hazardous constituents after the transfer?**

Response: Sediments in the storm drain system at Parcel A were removed during system maintenance activities between August 1994 and April 1995. This removal is documented in the "Parcel A Storm Drain Monitoring Report" dated May 3, 1996. The Navy will not monitor the storm drain system at Parcel A after the transfer of the property.

3. Comment: **<u>Page 6, Section 5.2.2, Lead-Based Paint</u>. The second sentence of this section states that "there are no state or local lead-based paint standards." This sentence should be rewritten because the State of California Department of Health Services does have published lead-based paint standards. Also, will these buildings be demolished after the parcel has been transferred?**

Response: The sentence in Section 5.2.2 that states that there are no state standards for lead-based paint will be deleted. The Navy will not demolish any buildings at Parcel A prior to the transfer of Parcel A to the City of San Francisco. The City of San Francisco will be responsible for demolition of any buildings after the transfer of Parcel A.

4. Comment: **<u>Page 7, Section 6.0, Notice of Hazardous Substances</u>. The first sentence indicates that the facility was established as an "active" facility in 1974. The word active should be changed to inactive.**

Response: The word "active" will be changed to "inactive" in the first sentence of Section 6.0.

5. Comment: **<u>Page 7, Section 7.0, Additional Deed Contents</u>. Please reference the 120(h)(3) letter that indicates that all remedial actions have been taken and include it as an attachment to this report.**

Response: See response to EPA comment 5.

6. Comment: **<u>Page 10, Figure 1</u>. Please include all figures that are part of the report.**

Response: All figures are included in the draft final Parcel A FOST.

7. Comment: **<u>Page 13, Attachment 1</u>. Please include all attachments that are part of the report.**

Response: Attachment 1 to the Parcel A FOST is the legal description of Parcel A and will be included in the draft final Parcel A FOST.

RESPONSE TO COMMENTS FROM SFDPH

1. Comment: **We are concerned that there may be lead contamination in the soil surrounding the structures on Parcel A. Has the Navy ever investigated the possibility of lead contamination in the soil surrounding the houses and other structures?**

Response: In 1993, the Navy conducted a lead-based paint and soil survey in Parcel A. The results of this survey are documented in the August 1993 Tetra Tech report titled "Lead-Based Paint and Soil Sampling: Parcel 'A' Quarters, Hunters Point Naval Base." This report was sent to the SFDPH on August 22, 1996. Supplemental soil sampling for lead-based paint was conducted in 1997. The results of this supplemental sampling are presented in the March 1998 IT Corporation report titled "Parcel A Supplemental Soil Lead Sampling Report, Hunters Point Shipyard, San Francisco, California." The Navy forwarded a copy of this report to the SFDPH on May 6, 1998.

2. Comment: **We understand, as stated in Section 5.2.2, that the Navy does not intend to conduct a lead-based paint survey of the residential structures on Parcel A because the City intends to demolish these structures. However, the soil around the structures, which may have been contaminated by lead paint, will be left in place. The area is intended to be developed into residential housing and any lead contamination left in the soil could cause health problems for future residents.**

Response: Soil around residential structures on Parcel A was sampled during two lead-based paint surveys described in the 1993 Tetra Tech report and the 1998 IT Corporation report (see response to SFDPH comment 1 above). The surveys were designed according to the guidelines provided in Part II of the Federal Register, June 29, 1992, referred to as the Department of Housing and Urban Development (HUD) Notice of Funding Availability document (NOFA). The results of the two studies demonstrate that the average lead concentration in soil surrounding residential structures on Parcel A is 215 milligrams per kilogram (mg/kg), which is less than the EPA Region IX preliminary remediation goal (PRG) for residential soil of 400 mg/kg.

In addition, the average lead concentration of 215 mg/kg for soil at Parcel A is less than the residential cleanup goal derived for Parcel B of 221 mg/kg; the development of the 221 mg/kg cleanup goal is described in detail in the response to SFDPH November 1996 comment #1 shown below. Because the average Parcel A lead concentration of 215 mg/kg is below the PRG and the Parcel B cleanup goal, the Navy concludes that lead in soil at Parcel A does not pose a health risk to future residents on Parcel A. EPA reviewed the results of the lead-based paint surveys and concurred that the levels of lead in soil at Parcel A are protective of human health and require no further action; this concurrence was documented in a letter to the Navy dated April 27, 1998.

3. Comment: We are aware that some lead soil tests were conducted as part of the Site Investigation and Remedial Investigation work on Parcel A. However, we were unable to find any evidence that a comprehensive lead testing program was conducted for the soil around the structures on Parcel A. Please provide us with any information you may have about lead soil testing around the structures or an explanation why lead soil testing was not conducted.

Response: Results of all soil sampling and analyses conducted during the SI and remedial investigation (RI) of Parcel A are reported in the PRC Environmental Management, Inc. (PRC), documents "Draft Final Parcel A SI Report" and "Parcel A RI Report," published in October 1993 and September 1995, respectively. These reports have been reviewed by the regulatory agencies, which concur that soil sampling conducted during the SI and RI adequately characterized the nature and extent of lead and other contaminants at Parcel A.

In addition to soil sampling conducted during the SI and RI, soil around residential structures on Parcel A was sampled during the two lead-based paint surveys described in the 1993 Tetra Tech report and the 1998 IT Corporation report (see response to SFDPH comment 1 above). As described in the response to SFDPH comment 2 above, the results of these surveys demonstrate that levels of lead in soil at Parcel A do not pose a health risk to future residents.

RESPONSE TO SFDPH LETTER DATED NOVEMBER 14, 1996, REGARDING THE REPORT TITLED "LEAD-BASED PAINT AND SOIL SAMPLING: PARCEL 'A' QUARTERS"

1. Comment: Our primary concern is that eight of thirty-four sample results exceed the Navy's human health risk assessment screening value for future residential areas. This screening value of 221 ppm lead is currently being used for Parcels B through F. Since Parcel A is the one area of the Shipyard dedicated to residential development, it should meet the criteria for the most protective human health risk assessment levels for residential areas, in this case, 221 ppm lead. Explain how the results that are above 221 ppm are protective of human health or are not of concern.

Response: The lead soil data used to prepare the Parcel A human health risk assessment were screened against the 1995 EPA Region IX PRG for residential soil of 400 mg/kg. This PRG was calculated using EPA's 1994 Integrate Exposure Uptake Biokinetic Model (IEUBK Model) and addresses potential exposure to lead from the following pathways: dermal contact with soil, inhalation of dust, and ingestion of soil and drinking water. Based on the results of the Parcel A human health risk assessment and the RI, a no-action ROD was signed in November 1995 for Parcel A.

In 1996, the health-based cleanup goal for lead at Parcel B was developed using the EPA's IEUBK Model. For Parcel B, human health exposure pathways evaluated using the IEUBK Model consisted of dermal contact with soil, inhalation of dust, and ingestion of soil and drinking water. In addition, exposure to lead through the ingestion of homegrown produce was also evaluated during the Parcel B risk assessment at the request of HPS community members. The health-based cleanup goal for lead in soil at Parcel B calculated using the IEUBK Model is 221 mg/kg.

In early 1997, while reviewing the draft FOST for Parcel A, the Base Realignment and Closure Cleanup Team (BCT) discussed potential CERCLA releases from lead-based paint sources on Parcel A. The BCT was informed that in 1993, the Navy's compliance group had contracted out a lead-based paint survey for Parcel A. The results of this survey were shared with the BCT and are reported in the 1993 Tetra Tech document "Lead-Based Paint and Soil Sampling: Parcel 'A' Quarters, Hunters Point Naval Base." The survey was conducted throughout the former housing units and around the water tank at Parcel A. With the exception of two samples, lead levels in the soil samples were well below the EPA Region IX PRG of 400 mg/kg. The samples showing elevated lead levels were collected at the water tank and at former housing unit R-105.

In 1997, at EPA's request, the Navy agreed to resample these two areas. During the 1997 supplemental sampling event, high lead levels were not duplicated at residence R-105, and the average concentration of lead in the soil at the water tank was approximately one-tenth of the concentration reported for the water tank in 1993; these results are reported in the 1998 IT Corporation report titled "Parcel A Supplemental Soil Lead Sampling Report, Hunters Point Shipyard, San Francisco, California." The high concentrations of lead measured at the water tank and residence R-105 during the 1993 Tetra Tech survey may have been due to paint chips collected with the soil samples.

At the completion of the 1997 resampling event, the BCT reviewed all of the lead-based paint data for Parcel A (from both the 1993 and 1997 sampling events) and evaluated it with respect to the 221 mg/kg cleanup goal calculated for lead in the Parcel B RI. Although the 221 mg/kg lead cleanup goal had been calculated for Parcel B, EPA believed it was reasonable to use it to screen the Parcel A lead-based paint soil data, given that the proposed reuse for Parcel A is residential housing, which could include gardening and exposures to contaminants through homegrown produce.

Based on results from the soil samples collected during the 1997 sampling event, the average lead concentration near R-105 was 210 mg/kg, and the average lead concentration near the water tank was 287 mg/kg, only slightly above the 221 mg/kg level. EPA informed the Navy that it does not view the 221 mg/kg Parcel B cleanup goal as a "bright line" cleanup level and does not regard the small percentage of soil samples on Parcel A exceeding the 221 mg/kg for lead as a threat to human health. The average lead level in soils across Parcel A derived from both the 1993 and 1997 sampling events is 215 mg/kg. Therefore, given the data from both sampling events, the average value of lead in soil across Parcel A is protective and will not pose a risk to human health.

Because the average concentration of lead in soil across Parcel A is generally below the 221 mg/kg cleanup goal, the Navy believes that lead in soil at Parcel A does not pose a risk to human health and that no further action is required to protect human health. EPA concurred with this position in a letter to the Navy dated April 27, 1998.

2. Comment: **The sampling objectives and sampling design were not clearly defined. There appears to be no linking of sample locations with possible sources and no explanation given of why samples were taken in certain areas. There should have been more emphasis on characterization of building perimeters and other possible source areas. Composite samples from these source areas would have given a better overall picture of the lead in soil, rather than the few randomly placed discrete samples shown in the report. Please explain how the sampling locations and types of samples provide a characterization of the soil around the housing areas.**

Response: The objective of the 1993 Tetra Tech report titled "Lead-Based Paint and Soil Sampling: Parcel 'A' Quarters" was to present the results of a lead-based paint and soil survey for the housing units located in Parcel A. The survey was designed according to the guidelines provided by the HUD NOFA. The HUD NOFA guidelines apply to currently occupied housing units; since the Parcel A residential units have not been occupied since the 1970s and are not likely to be reoccupied, the survey concentrated on soil surrounding the housing units and exterior painted surfaces. As stated in the survey report, the areas selected for survey were chosen to reflect the highest lead concentrations for the particular surveyed area; therefore, housing areas that showed visible paint cracks or paint peeling and that might be a source of lead were surveyed.

The Navy disagrees that composited samples would have provided a better overall picture of the lead in soil, although one composited sample was taken from the area surrounding the water tank at Parcel A during both the 1993 and 1997 soil sampling events. The Navy believes that lead in soil at Parcel A was adequately characterized during the 1993 and 1997 soil sampling events. Because the average concentration of lead in soil across Parcel A is below the 221 mg/kg cleanup goal, the Navy believes that lead does not pose a risk to human health at Parcel A. As previously stated, EPA concurred with this position.

3. Comment: The sampling analyses were also cause for concern because of the small number of lab verified results. The XRF method for screening soil can result in a high level of deviation in the results. We also feel that the elevated result of 2,700 ppm was probably not "erroneous" as stated in your letter, but reflects the range of results that can be found in soil in locations where lead-based paint was used.

Response: Supplemental soil sampling for lead-based paint was conducted in 1997 to address these concerns. Soil samples were collected at residence R-105, which was the location of the elevated result of 2,700 mg/kg (not R-103, which was a typographical error in Table 2 of the 1993 Tetra Tech report), as well as at the water tank area. Lead concentrations in the soil samples collected at residence R-105 confirm the original XRF values reported in the 1993 survey and demonstrate that the analytical result of 2,700 mg/kg was an erroneous value, which was likely the result of paint chips collected with the soil sample. Based on soil sampling data from the 1997 lead-based paint survey, the average lead concentration in the vicinity of residence R-105 is 210 mg/kg, and the average lead concentration in the water tank area is 287 mg/kg. The results of both the 1993 and 1997 surveys indicate that the average lead concentration in soil across Parcel A is 215 mg/kg, which is below the Parcel B residential cleanup goal of 221 mg/kg. Therefore, the Navy believes that lead in soil at Parcel A does not pose a risk to human health; EPA concurred with this position in a letter to the Navy dated April 27, 1998.

ATTACHMENT 2
REVISED RESPONSES TO AGENCY COMMENTS ON THE DRAFT FINAL FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A, DATED SEPTEMBER 22, 1999

REVISED RESPONSES TO AGENCY COMMENTS ON THE DRAFT FINAL FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

On May 17, 1999, the U.S. Department of the Navy (Navy) submitted responses to the U.S. Environmental Protection Agency (EPA) and San Francisco Redevelopment Agency (SFRA) comments on the draft final finding of suitability to transfer (FOST) for Parcel A at Hunters Point Shipyard (HPS), dated February 16, 1999. The comments on the draft final FOST were received from EPA on March 18, 1999, and from the SFRA on April 13, 1999. This document is a revision of the responses submitted on May 17, 1999. The original responses were only revised to include responses to comments received from the San Francisco Bay Region of the California Regional Water Quality Control Board (RWQCB) on August 4, 1999; responses to EPA and SFRA comments remain unchanged.

Comments are presented in boldface type.

RESPONSE TO COMMENTS FROM EPA

1. Comment: Section 1.0 – Purpose

<u>Page 1 – List of Documents</u> - Please add the April 27, 1998 letter from EPA to the Navy and the Navy's November 1998 responses to comments on the draft FOST to the list of documents in section 1.0. Also, please include these responses in an appendix and/or in the text of the FOST (section 5.2.2). In the November 1998 responses, the Navy responded very thoroughly to the City's concerns regarding lead based paint releases at Parcel A. The draft final FOST (section 5.2.2) does not adequately reflect the detailed final responses to the City's concerns. This is an important part of the Parcel A record and needs to be included in the draft final FOST.

Response: The EPA letter dated April 27, 1998, has been added to the list of documents in Section 1.0. The Navy's November 1998 document responding to regulatory agency comments on the draft Parcel A FOST has also been added to the list of documents in Section 1.0 and has been provided in its entirety as Attachment 2 to the final FOST.

2. Comment: Section 4.0 – NEPA Compliance.

<u>Page 3</u> - For the record, EPA would like to again state that an EIS/EIR should be completed prior to finalizing a FOST. However, if the Navy does not expect there to be any issues arising under the NEPA process which would prevent DOD from issuing the CERCLA covenants, the FOST can be finalized. However, the parcel (as the FOST states) cannot be transferred until the EIS is completed.

Response: The Navy does not expect issues to arise from the environmental impact statement/ environmental impact report (EIS/EIR) that would prevent the issuance of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) covenant for Parcel A. In addition, while the FOST can be finalized, it will not be signed until the NEPA process is concluded. The Navy acknowledges that Parcel A cannot be transferred until the EIS/EIR is complete.

3. Comment: Section 5.0 – EBS Findings

<u>Page 4 first full paragraph</u> – This paragraph is confusing. It should be preceded by a brief description of each of the (new) classifications. Also, the text here states that 6 of the 8 subparcels that are partially located on Parcel A are classified as category 6 because of conditions on the portions of the subparcels that aren't located on Parcel A, but it doesn't say anything about the other two out of the 8. Further, the text here states that there are 20 subparcels, and then mentions 14 subparcels that are ECP area type 1 and 8 additional ones. So are there 20 subparcels or 22? Please clarify this paragraph.

<u>Pages 5-6</u> – The paragraphs discussing Spear Street (subparcels S-28, S-29, S-30, and S-31) do not indicate the addition of Spear Street to Parcel A occurred after the publication of EBS Revision 01. Yet these paragraphs refer to Revision 01 of the EBS as the document that supports the statement in these paragraphs that "no releases of any hazardous substance occurred" in these subparcels. Was EBS Revision 01 amended to include documentation supporting this statement, or is the support found in a separate document (which should be included in the list on page 1 and referenced in these paragraphs)?

<u>Page 7 first full paragraph</u> – Please state that soil removal actions or interim remedial actions were conducted on Parcel A (as EPA did in the Parcel A Notice of Intention to Delete) instead of using confusing statements like: "IR-59 was investigated using a technique that used soil excavation for the purpose of site characterization." Since these soil removals were conducted, no further action was necessary to protect human health and the environment. The Navy needs to be clear about what happened and why a no action ROD was appropriate for Parcel A.

Response: <u>Page 4, first full paragraph</u>: A brief description of the new environmental condition of property area type classifications has been added to the text preceding the subject paragraph. In addition, the paragraph has been revised to clarify the fact that Parcel A consists of 20 subparcels.

<u>Pages 5 and 6:</u> As stated in each of the paragraphs evaluating subparcels S-28, S-29, S-30, and S-31, the Spear Avenue portion of these subparcels was added to Parcel A after Revision 01 of the HPS basewide environmental baseline survey (EBS) was published. As a result, the environmental condition of the Spear Avenue portion of these subparcels was evaluated in the FOST using the Parcel D remedial investigation (RI) and feasibility study (FS) reports as information sources. The text

has been revised to clarify this fact. In addition, the RI and FS reports have been added to the list in Section 1.0 and are referenced in the text of Section 5.0.

Page 7, first full paragraph: The text has been revised as requested.

4. Comment: Section 5.1.6 – Parcel A Boundaries

Figure 3 – This figure appears to include Crisp and exclude Spear. Please correct. Was not clear if the boundary map following page 28 also has the same error (the area map in corner is correct).

Response: Figure 3 has been revised as requested; this figure number has been changed and is designated Figure 4 in the final Parcel A FOST. The boundary map (Figure 2) reflects the correct property boundaries. However, during review of this map, the Navy discovered a typographical error. The acreage for Parcel A East has been changed from 60.080 acres to 66.080 acres. The total acreage was correct on the original map and has not been changed.

5. Comment: Section 5.2.2 – Lead Based Paint

Page 11 – As stated above, please use or cite the full text of the November 1998 responses to the City's comments in this section.

Response: The text of Section 5.2.2 summarizes the detailed text of the Navy's response to agency comments on the draft Parcel A FOST. The response to comments has been provided in its entirety as Attachment 2 to the final Parcel A FOST. References to Attachment 2 have been added to the text of Section 5.2.2.

6. Comment: Section 6.0 – Notice of Hazardous Substances

Page 13, first sentence of the second paragraph – FYI - Table 7 indicates Building 101 tenant J. Terzian stores 1300 kg of paint. This appears to conflict with the text on page 13.

Response: Paint is a mixture that contains small quantities of several CERCLA hazardous substances. Under CERCLA, each hazardous substance is evaluated separately to determine if it exceeds the CERCLA reportable quantity of 1,000 kilograms (kg). As a result, it is unlikely that storage of 1,300 kg of paint in Building 101 would result an exceedance of 1,000 kg for any individual hazardous substance. The text of Section 6.0 has been revised to clarify this fact.

RESPONSE TO COMMENTS FROM THE SFRA

General Comments

1. Comment: The FOST should state that Parcel A has been deleted from the NPL.

Response: The FOST has been revised to state that Parcel A was officially deleted from the National Priorities List on April 5, 1999.

Specific Comments

1. Comment: Page 3, Section 4.0 NEPA Compliance

The City agrees with the USEPA that the EIS/EIR should be completed prior to finalizing the FOST. If any issues arise from the NEPA process that affect the FOST, then the FOST should be amended.

Response: Comment noted. Please see the response to EPA comment 2.

2. Comment: Page 10, Section 5.2.1 Asbestos

The asbestos surveys that the Navy performed in 1993 will be outdated by the time the transfer occurs. For the buildings on Parcel A that the City intends to reuse (101, 813, 808, etc.), the Navy should provide an update on the survey and correct any problems that are noted.

Response: The Navy is currently re-inspecting 10 buildings on Parcel A for the possible presence of asbestos-containing materials (ACM). These include Buildings 101, 110, 808, 813, and 916. The Navy will repair damaged, friable ACM found during the re-inspections. The text of Section 5.2.1 has been revised to include this information. Upon completion of the re-inspection and abatement activities, the Navy will provide the results to the SFRA. The results will also be incorporated into the next update of the HPS basewide EBS, which will be Revision 02.

3. Comment: Pages 10 and 11, Section 5.2.2 Lead-Based Paint

We agree with the USEPA that the detailed responses on the lead-based paint issue should be included in this FOST. Please add the entire November 1998 Revised Response to Comments on Draft Parcel A FOST as an attachment to this document. The attachment could be cited in this section by adding a sentence at the end of paragraph two referring the reader to the Attachment.

Response: Please see the response to EPA comment 1.

4. Comment: Figure 1, Boundary Map

It is very difficult to see the boundary lines on this map. Can the boundary lines be made more distinctive or the non-essential lines colored gray?

Response: Figure 1 has been revised to make the boundary lines heavier ; this figure number has been changed and is designated Figure 2 in the final Parcel A FOST. This figure is a reduction of a full-size boundary map. The Navy will provide the SFRA with a copy of the full-size boundary map upon request.

RESPONSE TO COMMENTS FROM THE RWQCB

1. Comment: Section 5.3

The notification language should include a reference to the sub-parcel where the petroleum hydrocarbons were detected in groundwater.

Response: The notification language has been revised as requested.

2. Comment: Table 3

The sub-parcel where the petroleum hydrocarbons were detected in groundwater should be classified as ECP Area Type 2. Although this FOST does not discuss a further breakdown of Type 2, the Navy has used such a system on other facilities in the Bay Area. Using this system for the sub-parcel in question, the classification would be ECP Area Type 2-3, where release of petroleum hydrocarbons has been detected, but detected concentrations are below action levels.

Response: Table 3 and Section 5.0 have been revised to reflect that subparcels H-52 and N-17 are classified as ECP area type 2-3 due to the presence of petroleum hydrocarbons in groundwater. In addition, the ECP area type definitions presented in Section 5.0 have been revised to include definitions of the ECP area type 2 subcategories.

3. Comment: UST S-812

The sub-parcel where this UST was located should also have an ECP Area Type 2 classification, with a sub-classification appropriate to the results of tank removal and subsequent analytical results.

Response: UST S-812 was located in subparcel S-47. Analytical results collected at the site are presented in the draft recommendation for case closure of the former site of UST S-812, dated September 7, 1999. The analytical results support the conclusion that subparcel S-47 should be classified as ECP area type 2-3. As a result, Table 3 and the text of Section 5.0 of the FOST have been revised to reflect that subparcel S-47 is classified as ECP area type 2-3.

ATTACHMENT 3
RESPONSES TO AGENCY AND PUBLIC COMMENTS ON THE FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A, REVISION 2, DATED MARCH 26, 2002

DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

5090
Ser 06CH.KF/0854
August 26, 2002

Ms. Claire Trombadore (SFD 8-3) (Hard Copy)
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Mr. Chein Kao (Hard Copy)
Department of Toxic Substances Control
700 Heinz Avenue, Bldg. F, Suite 200
Berkeley, CA 94710

Mr. Michael Rochette (Hard Copy)
California Regional Quality Control Board, San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear BCT members:

Enclosure (1) is provided for your review and comment regarding the responses to agency and public comments on the Parcel A Finding of Suitability to Transfer (FOST), Revision 2, Hunters Point Shipyard. As discussed at the August 6, 2002 BCT meeting, the Navy is providing these responses in order to identify any outstanding issues that require resolution prior to finalization of the FOST. Please review the enclosed responses to comments and identify any outstanding issues in writing by September 10, 2002 (the next BCT meeting). Provided that your input is received in a timely manner, the Navy intends on issuing the Draft Final FOST, Revision 2 on September 24, 2002.

Should you have any concerns with this matter, please contact the undersigned at (619) 532-0913.

Sincerely,

KEITH FORMAN
BRAC Environmental Coordinator
By direction of the Commander

Encl: 1. Responses to Agency and Public Comments on the Finding of Suitability to Transfer for Parcel A, Revision 2, Hunters Point Shipyard, August 26, 2002

5090
Ser 06CH.KF/0854
August 26, 2002

Copy to: (hard copy)

Ms. Eileen Hughes
700 Heinz Avenue, Bldg. F, Suite 200
Berkeley, CA 94710

Ms. Amy Brownell
1390 Market Street, Suite 910
San Francisco, CA 94102

Ms. Jaque Forrest
155 Grand Avenue
Oakland, CA 94612

Ms. Deidre Dement
P.O. Box 942732
Sacramento, CA. 94234-7320

Ms. Lani Asher
PO Box 885111
San Francisco, CA 94188

Anna E. Waden Library
5075 Third Street
San Francisco, CA 94124

Copy to: (via e-mail only)

Mr. Don Capobres
770 Golden Gate Avenue
San Francisco, CA 94102

Mr. Robert J. Hocker Jr.
Mr. Marcos Getchell
Four Embarcadero Center, Suite 1700
San Francisco, CA. 94111

Ms. Christine Shirley
833 Market Street, Suite 1107
San Francisco, CA 94103

Dr. Ahimsa Sumchai
1249 Exposition, Unit F
San Francisco, CA 94127

Ms. Karla Brasaemle
90 New Montgomery Street, Suite 1010
San Francisco, CA. 94105

Mr. Gregg Olson
1155 Market Street, 4th Floor
San Francisco, CA 94103

Ms. Dorinda Shipman
555 Montgomery Street, Suite 1300
San Francisco, CA 94111

Mr. Lynne Brown
24 Harbor Road
San Francisco, CA 94124

Mr. Keith Tisdell
613 La Salle Avenue
San Francisco, CA 94124

Mr. Patrick Shea
Government Information Center, 5th Floor
100 Larkin Street
San Francisco, CA 94102

Mr. Jesse Blout
Ms. Rona Sandler
Ms. Elaine Warren
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4682

Ms. Marie Harrison
4908 Third Street
San Francisco, CA 94124-2901

Ms. Kevyn Lutton
1411 Oakdale Avenue
San Francisco, CA 94124

5090
Ser 06CH.KF/0854
August 26, 2002

Mr. Bill Breedlove
4005 Port Chicago Highway
Concord, CA 94520

Mr. Ronald Keichline
1230 Columbia Street, Suite 400
San Diego, CA 92101

Mr. Mike Wanta
135 Main Street, Suite 1800
San Francisco, CA 94105

RESPONSES TO REGULATORY AGENCY,
CITY OF SAN FRANCISCO, AND PUBLIC COMMENTS ON THE
FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A, REVISION 2,
DATED MARCH 26, 2002

(35 pages)

RESPONSES TO REGULATORY AGENCY COMMENTS ON
PARCEL A FOST, REVISION 2
FOR HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

This document presents the U.S. Department of the Navy's (Navy) responses to comments from the U.S. Environmental Protection Agency (EPA), and the California Regional Water Quality Control Board (RWQCB) on the "Parcel A Finding of Suitability to Transfer (FOST), Revision 2, Hunters Point Shipyard (HPS), San Francisco, California," dated March 26, 2002. The comments addressed below were received from EPA on May 7, 2002, and from RWQCB on May 28, 2002.

This document also presents the Navy's responses to comments from the California Department of Health Services (DHS) on the "Draft Historical Radiological Assessment (HRA), Volume II, Use of General Radioactive Materials 1939-2002, HPS, San Francisco, California," dated March 29, 2002. The comments addressed below were received from DHS on June 7, 2002, and were limited to the Parcel A portions of the HRA document. Responses to these comments on the HRA, as they apply to Parcel A, are included with the Parcel A FOST per the request of the California Department of Toxic Substances Control (DTSC).

RESPONSES TO EPA

1. Comment: **State up front what subparcels added since original 2/25/00 FOST EPA concurred on.**

Response: The Navy will revise Section 5.0 to state that subparcels N-13A and N-18A were added as a result of the boundary change.

2. Comment: **With all of the changes, is Parcel A still 86 acres?**

Response: The Navy has verified that the boundary changes have resulted in a net increase of about 1 acre, and will revise the text to reflect that Parcel A is about 87 acres.

3. Comment: **At the request of the City of San Francisco, Fisher Street has been added to Parcel A in Revision 2 of the FOST. Addition of Fisher Street results in the creation of new subparcels including N13A and N18A In Revision 2 of the Parcel A FOST, the Navy has designated subparcels N13A and N18A as ECP 1. For the newly created subparcels designated as ECP 1, the Navy must state in greater detail what it relied upon to make the determination that the property is ECP 1 or "uncontaminated." In accordance with CERCLA 120(h)(4), EPA is required to concur with ECP 1 determinations. Therefore, the Navy must provide sufficient detail for EPA to be able to concur with the Navy's ECP 1 designation. Further, EPA requests that the Navy provide written assurances that it has reviewed the boundaries of Parcel A and determined that there are no other areas of contamination on Hunters Point Shipyard Parcels B, C, D or E that will expand into or otherwise adversely impact Parcel A in the future. The Navy should state in FOST Revision 2 that it has determined that no hazardous substance, pollutant or contaminant originating on an adjacent parcel has migrated onto or could**

migrate onto Parcel A – this includes groundwater contamination.

Response: The Navy evaluated the condition of subparcels N-13A and N-18A (Fisher Avenue carve-out) in the same manner as subparcels N-28A, N-29A, N-30A, and N-31A (from the Spear Avenue carve-out) were evaluated previously. The new area in question lies entirely beneath the pavement of Fisher Avenue. The Navy will revise the FOST to state that the Parcels C and D remedial investigation (RI) and feasibility study (FS) reports were reviewed to ensure that the portions of the subparcels within the Parcel A boundary do not contain any suspected source areas (and as a result, no soil or groundwater sampling was conducted in this area) and do not contain any portion of a Parcel C or D Installation Restoration (IR) site. In addition, the Navy will note that groundwater present in the bedrock water-bearing zone flows away from the Parcel A boundary in HPS and, as a result, groundwater contamination at Parcels C and D has a low potential to migrate into Parcel A.

The Navy has also reviewed all available data from adjoining parcels to verify that contaminants from adjoining environmental baseline survey (EBS) parcels contained within Parcels B, C, D, and E are unlikely to migrate onto Parcel A as part of past EBS Environmental Condition of Property (ECP) determinations as documented in the 1998 EBS report. In addition, for those EBS subparcels created by the inclusion of Fisher Avenue in this revision to the Parcel A footprint, language has been added to Section 5.0 of the FOST as appropriate to address the assignment of ECP categories to the newly created subparcels N-13A and N-18A. This language includes discussion regarding the impact of adjacent parcels on the proposed ECP categories

Regarding the Fisher Avenue carve-out, the only sample collected within this area was a water sample collected from the sanitary sewer system (PA50SN339). In addition, the only area where the revised Parcel A boundary is close to IR sites or sampling points in Parcel C is in N-18A near IR-30. Three soil sampling locations (IR30SS38, IR30B36, and IR30B037) are located about 40 feet from the Parcel A boundary. Based on a review of Figure 4.5-1 from the Parcel C RI, no hazardous substances were detected in soil samples collected from these locations at concentrations exceeding the Parcel B residential cleanup levels.

Based on these findings, the Parcel A portions of subparcels N-13 and N-18 (parcels N-13A and N-18A, respectively) meet the criteria to be categorized as ECP Type 1.

4. **Comment:** **Subparcel N-13A is not labeled on Figure 3.**

Response: The Navy will revise Figure 3 to identify subparcel N-13A.

5. **Comment:** **No streets labeled on Figure 3. Would like to see where Fisher, Spear and Crisp are on the map - like on Figures 2 and 5 of FOST Revision 1.**

Response: The Navy will revise Figure 3 accordingly.

6. **Comment:** **Bldg 816 - may want to add EPA's 1993 and 2002 memos concluding no threat to human health and the environment due to tritium. These memos were included as attachments to the letter EPA provided to Supervisor Maxwell last month. These memos and correspondence clearly show that EPA concurs with the Navy and the state that Bldg 816 poses no threat to future users. EPA has provided copies of these memos to the Navy.**

   Response: The Navy appreciates EPA's effort in providing this information, and will add it to Attachment 4.

7. **Comment:** **Under Section 5.1.4 - The good thing about ordnance is that is visible so that visible inspection will conclude whether or not ordnance is present. Should add to the FOST more emphatically that visible inspections of the small arms munitions storage bunker found no ordnance.**

   Response: The Navy will revise Section 5.1.4 accordingly.

8. **Comment:** **Again - Table 3, N-18, N-13: overall = 6 - why is ECP 1 appropriate for new Parcel A subparcel? EPA must concur so add detail to text supporting your conclusions.**

   Response: The Navy proposes to add a footnote to Table 3 that elaborates on the procedure used to categorize the Parcel A portion of subparcels N-13 and N-18 (and others as appropriate). The footnote will contain language similar to that stated in response to comment 3 above. The Navy believes this is the clearest way to clarify Table 3 to address EPA's concern.

9. **Comment:** **Attachment 4 – There was a xerox error in EPA's copies. Please ensure that Attachment 4 is correct in the revised FOST.**

   Response: The Navy will correct any reproduction errors in Attachment 4. To clarify, Attachment 4 currently should contain only the one-page memorandum from the DHS. However, as stated in the response to comment 6 above, the Navy will revise Attachment 4 to include additional information provided by EPA.

10. **Comment:** **Section 5.1.1.3. In the pesticide section, if it is true, the Navy should make the statement at the end of this section that pesticide use in the remaining areas of Parcel A to be transferred pursuant to this FOST was in accordance with application of pesticides for intended use.**

    Response: The Navy will revise Section 5.1.1.3 to include the following language: "The Navy applied EPA-registered pesticides at Parcel A in a manner consistent with the manufacturer's instructions and in accordance with the Navy's established pesticide management program, pursuant to applicable laws and regulations. Pesticides were used at Parcel A for ordinary and routine application in a manner consistent with standards for registered application for residential areas."

11. **Comment:** **Section 5.1.3. This section only addresses building 816. Building 821 was also part of the former Naval Radiological Defense Laboratory (NRDL) program. It is EPA's understanding that building 821 only contained an x-ray machine**

and that there are no radiological issues with this building. However, DHS has not yet provided formal release for building 821 as it did for 816. The Navy should discuss with DHS obtaining release of building 821 for unrestricted reuse. The Navy should explain whether there are other buildings on Parcel A with radiological issues requiring discussion in the FOST as well as DHS release. The Navy must correct errors and inconsistencies in the Draft Historical Radiation Assessment (HRA) for Hunters Point Shipyard with respect to Parcel A buildings. For example, in one section of the HRA (page 6-32), Building 815 is incorrectly identified as being a former Naval Radiological Defense Laboratory (NRDL) on Parcel A when it is actually located on a formerly used defense site adjacent to Parcel A. Another example is on page 6-34 of the HRA, it is stated that Building 821 on Parcel A is to be included in future radiological survey work to be performed by New World Technology (NWT). However, on page 8-3 of the HRA Building 821 is listed as needing no further action. Many of these errors have already been brought to the Navy's attention by the City of San Francisco in an e-mail dated April 18, 2002. EPA's formal comments on the HRA which are due later this month will provide detailed comments with respect to these inconsistencies.

Response: Buildings 816 and 821 are the only former NRDL buildings located on Parcel A. No general radioactive material was housed in Building 821; therefore, the Atomic Energy Commission (AEC) release for this building was not required during the survey performed by AEC from 1969 to 1970. Although formal release is not technically required, the Navy, since issuing the draft HRA Volume II, has inspected Building 821 for potential radiological contamination as an additional precaution. The results of the inspection have been forwarded to DHS to support its concurrence with the unrestricted release of Building 821. The Navy will include updated correspondence from DHS regarding Building 821 in the FOST.

Navy welcomes EPA's comments on the draft HRA and any inconsistencies pointed out will be addressed in the draft final HRA.

12. Comment: **Section 5.2.3, Polychlorinated Biphenyls. The last paragraph of this section on page 18 needs to reworded. As written, risk is not considered. The 3.2 ppm was the highest level detected for the tar samples scrapped from the concrete pad. The Navy should explain in greater detail that the four solid samples were analyzed for PCBs and the results confirmed PCBs were well below the TSCA regulatory limit of 50 ppm. Aroclor detections in the four solid samples ranged from a minimum of 0.6 ppm to a maximum of 3.2 ppm. The Navy should further elaborate upon how the tar like substance was completely removed and that no contamination remains on the concrete pad. A level of 3.2 ppm is not a cleanup level for the PCBs as the Navy erroneously stated at the Parcel A FOST Revision 2 Public Meeting held on April 18, 2002 (see transcript). The 3.2 ppm was the maximum aroclor detected in the tar like substance which was completely cleaned up and removed. The Navy should keep in mind that while aroclor remaining on Parcel A at a concentration of 3.2 ppm may not trigger TSCA requirements, it could pose a risk under CERCLA. Therefore the Navy must be clear that**

the 3.2 ppm was not a cleanup level, that the spill was completely cleaned up and if the concrete pad onto which the spill occurred remains, that there is not 3.2 ppm of residual aroclor on it which is what it sounds like as written. The Navy must conclude in the FOST-Revision 2 that there is no risk to human health and the environment remaining on Parcel A as a result of this spill. Please revise this paragraph to include a discussion of risk.

Response: Polychlorinated biphenyls (PCB) were not detected in the material spilled from the transformer. Furthermore, the transformer was previously certified as a "non-PCB transformer" in a basewide survey. In addition, the material was contained on concrete and asphalt surrounding the transformer, and the material was removed during cleanup activities. The Navy believes that this information, as summarized in the FOST, supports the decision that no further action (NFA) is required to protect human health or the environment. The Navy will revise the FOST to better clarify this subject and to document the basis of the NFA conclusion.

13. **Comment:** **The Navy recently informed EPA about significant subsurface detections of methane gas adjacent to Crisp Avenue on Parcel A. The methane gas is believed to be emanating from the Parcel E landfill. The Navy must demonstrate that this methane has not migrated onto and will not migrate onto Parcel A or otherwise present a risk to human health and the environment at Parcel A. Further, the Navy must fully evaluate the extent of this methane gas, evaluate the need for a gas collection system and if necessary have a gas collection system up and operating in order for EPA to concur with the transfer of Parcel A.**

Response: All data available at the time the Navy prepared Revision 2 to the Parcel A FOST indicated no adjacent sites affected the transferability/ECP categorization of Parcel A. However, the Navy has already committed to the full investigation of landfill gas, and to further demonstrate that subsurface gas is not migrating onto Parcel A. The Navy will continue to gather data regarding the extent of methane migration and the rate of methane generation. The data will be evaluated to determine a control strategy that is not expected to impact Parcel A. Preliminary results indicate that subsurface methane has not been detected north of the University of California, San Francisco compound on Crisp Avenue, which is over 100 feet from the Parcel A boundary. The Navy has installed seven permanent gas monitoring wells to verify that methane gas has not migrated onto or near Parcel A. The results were documented in a technical memorandum submitted on July 2, 2002.

14. **Comment:** **Lead based paint (LBP). The Navy sampled for LBP around former military housing units and a water tank on Parcel A in 1997. Levels of LBP in soil at that time were acceptable as described in the Parcel A FOST Revision 2. However, 5 years have elapsed since that sampling and there is the possibility that there has been additional flaking of paint and a potential for LPB releases to the soil of Parcel A. In accordance with the recently negotiated LBP field guide drafted jointly by DoD and EPA dated December 1999, the Navy may transfer the property because the existing structures are to be demolished prior to redevelopment. However, upon**

transfer and demolition, sampling and possibly abatement must be conducted for LBP. This may be performed by the transferee. The Navy should state this in the FOST Revision 2. In addition, if any sub-parcels of Parcel A that contain former military housing with flaking paint in excess of what was observed in 1997 are categorized ECP 1, the Navy should re-evaluate the ECP 1 designation. Sub-parcels with flaking LBP would not meet the definition of ECP 1. EPA has concluded that such sub-parcels might meet the category of ECP 3.

Response: The Navy is obligated to comply with the Final LBP field guide that became effective on March 30, 2000. This guidance was jointly developed by EPA and the Department of Defense. In particular, because all Parcel A residences will be demolished, the LBP field guide dictates that the transfer agreement will specify that the transferee will conduct soil sampling after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units in a manner consistent with Title X and Department of Housing and Urban Development guidelines. Sampling and assessment of soil by the Navy for LBP prior to transfer specifically is not required by the guidance in this instance.

The FOST will be revised to include the following restriction regarding LBP: "Due to the presence of lead-based paint on structures located at Parcel A, interim use of these structures prior to demolition is prohibited. The transferee will be responsible for managing all lead-based paint and potential lead-based paint hazards, including soil lead hazards, in compliance with the Residential Lead-Based Paint Hazard Reduction Act of 1992, 42 U.S.C. Section 4852d (Title X) and all applicable federal, state, and local laws and regulations. The transferee will conduct soil sampling after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units in a manner consistent with Title X and Department of Housing and Urban Development guidelines." A restriction discussing these general terms will be included in the deed.

In addition, the LBP notification provided in the FOST will be revised to be consistent with applicable authority (including 40 CFR Section 745.113 and 24 CFR Part 35).

In addition, the Navy does not consider that conditions related to potential LBP contamination of soil warrant reclassifying EBS subparcels as an ECP 3 versus an ECP 1. This approach is consistent with the Navy's position that the natural weathering of LBP does not constitute a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) release. However, the Navy recognizes that EPA and the Navy "agree to disagree" on this issue.

RESPONSES TO RWQCB

General Comments

1. Comment: **Section 3 of the Parcel A Finding of Suitability to Transfer (FOST) ends with "As a result, all property within the current Parcel A boundary is expected to meet the criteria required for deletion from the National Priorities List (NPL)." This statement implies a future decision to determine if the added property requires action to protect human and health and the environment. It is RWCQB staff's understanding that this determination must be completed prior to the finalization of the FOST.**

Overall, the Navy's proposed property transfer of, small sizes but numerous, portions of adjacent NPL parcels to the non-NPL Parcel A site is not adequately describe with respect to characterization and CERCLA compliance. Additional information is needed to characterize the surface and subsurface (e.g. groundwater and utilities) of the proposed transfer properties and to describe CERCLA compliance.

Response: The Navy added the Section 3 passage in question because the Parcel A boundaries have changed slightly since Parcel A was deleted from the NPL in 1999. Please refer to the Navy's response to EPA comment 3 regarding the evaluation procedure used to verify that the property added to Parcel A is expected to meet the criteria required for deletion from the NPL.

In addition, the Navy wishes to clarify that groundwater and subsurface utilities were investigated during the Parcel A site inspection (SI) and RI. As documented in the Parcel A Record of Decision (ROD), EPA, RWQCB, and DTSC concurred with the Navy's NFA recommendation for Parcel A.

2. Comment: **RWQCB staff recommends the Navy revise the FOST to include a parcel map illustrating the original property boundaries as defined by the Parcel A Record of Decision and the revised boundaries as defined by the this FOST.**

Response: The Navy will revise Figure 2 of the FOST to include the requested information.

3. Comment: **RWQCB staff requests the Navy revise the FOST to include the Parcel A Legal description with a property survey map stamped by a licensed California Land Surveyor.**

Response: A formal legal description is not required for the FOST; however, the legal description will be included in the deed package.

4. Comment: **RWQCB staff request the Navy revise the FOST to include a site plan identifying all existing, abandoned, or destructed groundwater monitoring wells or piezometers.**

Response: The Navy will include a map showing the status of Parcel A wells, and will provide details on previous well decommissioning.

5. **Comment:** **RWQCB staff requests the Navy submit a proposal to properly destroy all unnecessary existing or potential vertical conduits to groundwater (monitoring wells, piezometers, ect.) prior to transfer.**

Response: The Navy will decommission the two existing wells and one piezometer present in Parcel A, near the Parcels B and C boundary, because the wells are no longer necessary for ongoing investigations. However, the Navy wishes to clarify that the status of these wells (decommissioned or otherwise) does not impact the FOST.

6. **Comment:** **RWQCB staff requests the Navy revise the FOST to include the actual detection limits whenever discussing non-detections.**

Response: The Parcel A RI and ROD documents provide a detailed discussion of the investigation results at Parcel A. The level of detail requested is not appropriate for a FOST because its function is to only summarize the environmental condition of the property, certify it "ready for transfer," and extend the CERCLA warranty.

7. **Comment:** **The FOST cites Parcel C and Parcel D RIs and FSs as the supporting documents used to determine the ECP Area Type for subparcels with portions in adjacent Parcels C and D. The FOST should note that the documents referenced are not final but that the Navy believes the relevant information in these documents is valid and, in cases where new data is available, supported by the most recent data. The FOST should include the references supporting the ECP area Type 1 classification for subparcels with portions in adjacent Parcels B and E.**

Response: The Navy wishes to clarify that the RI reports for Parcels C and D are considered to be final documents, in accordance with the Federal Facilities Agreement. However, the Navy acknowledges that significant additional information has been collected since issuing these RI reports to support analysis in revised FS reports for Parcels C and D. Please refer to the Navy's response to EPA comment 3 for further information.

8. **Comment:** **The FOST defines the ECP Area Type 1 as: "Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas)" however, the FOST does not discuss any migration issues. In light of the Parcel E landfill gas migration, discussions on migration issues should be presented particularly in Section 5.0 when detailing subparcels that include portions of adjacent parcels.**

Response: Please refer to the Navy's response to EPA comments 3 and 13 regarding concerns over adjacency issues.

9. **Comment:** **The FOST does not discuss potential contamination associated with Pump Station A. Based on the overall poor condition of the storm water and sanitary sewer piping leading to Pump Station A, as described in the EBS, an assessment of groundwater impacts should be included in the FOST.**

Response: The Navy is in compliance with the discharge permits from Pump Station A to the publicly owned treatment works (POTW). In addition, extensive information collected to date from groundwater investigations on adjacent parcels, including the remedial investigations and the recent groundwater data gaps investigation, does not indicate the migration of groundwater contamination onto Parcel A. Based on this information, the Navy finds that no further investigation regarding groundwater at Parcel A is required for conveyance.

Specific Comments

1. **Comment:** **<u>Page v, Acronyms</u>: RWQCB: Correct to California Regional Water Quality Control Board, San Francisco Bay Region**

Response: The Navy will revise the FOST accordingly.

2. **Comment:** **<u>Page 5, Section 3.0, Para. 1</u>: See General Comments above.**

Response: Please refer to the responses to the general comments above.

3. **Comment:** **<u>Page 7, Section 5.0, Para. 6</u>: Subparcel N-13A is not identified on Figure 3.**

Response: The Navy will revise the FOST accordingly.

4. **Comment:** **<u>Page 9, Section 5.0, Para. 4</u>: Present petroleum hydrocarbon action levels in the text or on a table.**

Response: The Navy will clarify the passage in Section 5.0 that refers to the subparcel N-17A that was classified as ECP Type 2-3. The maximum detected concentration of total petroleum hydrocarbons (TPH) in this area was 600 micrograms per liter of TPH as motor oil. Based on the characterization presented in the RI, in a letter dated July 27, 1995, the RWQCB concurred with the Navy's NFA recommendation for groundwater at Parcel A.

5. **Comment:** **<u>Page 11, Section 5.1.1.2, Para. 1</u>: What analytes other than petroleum hydrocarbons were analyzed?**

Response: The Navy wishes to clarify that, as stated in the FOST, the steam lines in Parcel A did not contain waste oil, based on work conducted during the Parcel A SI. Therefore, no further investigation or sampling was required during the RI. As documented in the Parcel A ROD, EPA, RWQCB, and DTSC concurred with the Navy's NFA recommendation for Parcel A.

6. **Comment:** **<u>Page 12, Section 5.1.1.3, Para. 1</u>: Were any groundwater samples collected? If so, what analyses were run and what were the results?**

Response: The Navy wishes to clarify that, as stated in the FOST, the soil investigation conducted at Building 906 during the SI was sufficient to determine that no threat exists to human health and the environment. Therefore, no further investigation or sampling (including groundwater sampling) was required during the RI. As documented in the Parcel A ROD, EPA, RWQCB, and DTSC concurred with the Navy's NFA recommendation for Parcel A.

7. **Comment:** **Page 12, Section 5.1.2: Identify the subparcels when discussing USTs and AGTs.**

Response: The Navy will revise the FOST accordingly to identify that the one Parcel A underground storage tank was formerly located in subparcel S-47, and the one Parcel A aboveground storage tank is located in subparcel N-17A.

8. **Comment:** **Page 13, Section 5.1.3, Para. 1: What were the designated background radiation levels for alpha, beta, gamma, and tritium?**

Response: Building 816 was cleared for unrestricted release by DHS in August 2001. Please refer to draft HRA Volume II for more detailed information regarding radiological issues at Building 816. This level of detail is not appropriate for a FOST, which is a summary document only.

9. **Comment:** **Page 13, Section 5.1.3, Para. 2: Quantify what is meant by significantly exceeding background.**

Response: The 1992 Surface Contamination Radiation Survey report states that "activity above 10,500 counts per minute was considered anomalous and significant." According to the report, this value was derived from the average background gamma count rate plus 3 standard deviations of the established mean count rate, as determined using a sodium iodine gamma scintillation detector. The average background gamma count rate for HPS was established in 1988 by selecting 14 locations where sandblast waste and radioactive waste were not disposed.

10. **Comment:** **Page 13, Section 5.1.3, Para. 3: Was tritium contaminated wastewater discharged to the sanitary sewer? What were the tritium detection limits?**

Response: As discussed in the HRA, no tritium contaminated wastewater was discharged to the sanitary sewer system. Tritium detection limits for the 52 samples collected from around the building perimeter ranged from 0.13 to 0.44 pico curies per gram.

11. **Comment:** **Page 15, Section 5.1.5, Para. 1: The last sentence is unclear and uses the undefined term "area of concern." Please revise.**

Response: The Navy will revise the FOST to clarify this sentence. Note that the discussion of Parcel A boundaries, formerly in Section 5.1.5, will be located in Section 2.0 of the final FOST.

12. Comment: **Page 15, Section 5.1.5: Include the street names on the site plan.**

Response: Figures 2 and 3 of the final FOST will be revised to include street names.

13. Comment: **Page 15, Section 5.1.6: What effect does Pump Station A have on groundwater flow?**

Response: The Navy acknowledges that pumping of the sanitary sewer system from Pump Station A is a potential cause of groundwater sinks at HPS. However, as stated in the Navy's response to general comment 9 above, the Navy is in compliance with the discharge permits from Pump Station A to the POTW. In addition, information collected to date from groundwater investigations on adjacent parcels does not indicate migration of groundwater contamination onto Parcel A. Based on this information, the Navy believes that no further investigation regarding groundwater at Parcel A is required for conveyance.

14. Comment: **Page 18, Section 5.2.3, Para. 2: What is EPA's position on transferring property with residual PCB contamination?**

Response: The Navy defers this comment to EPA; however, the Navy conclusion is discussed is the subject section. In paragraph 2 of the above-referenced section, the Navy wishes to specifically clarify that remaining transformers and circuit breakers at Parcel A are classified as "non-PCB" equipment.

15. Comment: **Page 18, Section 5.2.3, Para. 3: Was the tar-like material sampled for PCBs? If so, what were the results?**

Response: As stated in Section 5.2.3 of the FOST, the Navy collected four solid samples of the tar-like material from the vandalized transformer near Building 821. PCBs were not detected in the material spilled from the transformer. In addition, the material was contained on concrete and asphalt surrounding the transformer, and the material was removed during cleanup activities. The Navy believes that this information, as summarized in the FOST, supports the decision that NFA is required to protect human health or the environment. The Navy will revise the FOST to better clarify this subject and to document the basis of the NFA conclusion.

16. Comment: **Figure 2: Identify the [Water?] Tank to the northeast of Building 906 and locate Pump Station A.**

Response: The Navy will revise the FOST accordingly.

17. Comment: **Figure 3: Identify subparcel N13A and correct the blue line that terminates in N13.**

Response: The Navy will revise the FOST accordingly.

18. Comment: **Table 3: Typo error identifies Subparcel 48 ECP Area Type Category as (A:41). It appears the Parcel A portion should be identified as (A:4).**

Response: The Navy will revise the FOST accordingly.

RESPONSES TO DHS

General Comments

1. **Comment:** **The Navy should address the entire Hunters Point Annex or Shipyard in this document. Areas that have been previously addressed in Volume 1 should be referenced as such in the Executive Summary. Also, it should be clearly stated that any buildings or areas not specifically addressed in this document are considered to be non-impacted and require no further investigation. As this document may be the main reference regarding radiological issues, it is highly important that any and all information is correct as stated. This version of the document has been found to have many discrepancies that must be corrected. Please verify and correct all information in this document before another revision is published for review.**

   Response: The Navy is committed to addressing all radiological issues at the former Hunters Point Shipyard. One step in this process is the publication of Volumes I and II of the HRA. In some instances Volume I and Volume II cover the same areas although the radiological concerns were different. The Draft Volume II HRA published on March 29, 2002 contained a summary of historical authorizations, investigations and research. Discrepancies in Draft Volume II HRA are being identified and resolved for issuance in the Draft Final Volume II HRA. The issue of non-impacted areas requiring no further investigation will also be addressed. Additionally, results of ongoing radiological investigation and remediation activities in Parcels B, C, D, and E that are not finalized prior to publication of the Draft Final Volume II HRA will be published in subsequent remedial action reports.

   In reference to Parcel A, the Draft Volume II HRA addressed radiological issues associated with Buildings 816 and 821 that were formerly associated with the NRDL. All other buildings are not considered impacted by radiological operations therefore no additional information is required to support the FOST. Additionally, the Navy's Radiological Affairs Support Office (RASO) provided information on Building 821 in a June 12, 2002 letter requesting the unrestricted release of Building 821. RASO is continuing to provide additional information to finalize this unrestricted release.

2. **Comment:** **DHS appreciates the inclusion of all the documents found on the CD 2, Appendix B. These references have made this review much easier. As there is a massive amount of material, it would be helpful if the Navy would provide the specific location of the text referenced in the documents so that the reviewer(s) can more easily follow the Navy's logic and intentions.**

Response: The Navy acknowledges the comment from DHS and will clarify the cite location in references to historical information, as appropriate, in the Draft Final Volume II HRA.

In reference to Parcel A, the Navy believes that documentation presented in the Draft Volume II HRA and associated reference material (Appendix B, CD2) concerning Building 816 and Building 821 radiological issues are sufficient to support the FOST.

3. **Comment:** **The history of many of the buildings is vague. The Navy should explain in more detail and provide the specific reference material used to generate the history of each building. Providing more of the information in the text and providing page numbers of the references used to verify the information would be helpful. For example, if known, please provide any information on when a building was built, the size of the building, which radionuclides if any may have been potentially present in each building, etc. The Navy should also explain in more detail why some of the nuclides may not be present now, etc. Any information on the machines used to produce radioactivity should be specifically identified. If there are records of serial numbers, dates of installation, operation or removal, and any residual radiation that could have been produced regarding these machines, this information should be provided or referenced.**

Response: The Navy acknowledges the comment from DHS and will provide additional site history information in the Draft Final Volume II HRA if available, however many of the details for buildings and equipment have not been found in historical information.

In reference to Parcel A, the Navy believes that sufficient information has been presented regarding the site history at Buildings 816 and 821 to support the FOST.

4. **Comment:** **Questions have been raised regarding buildings adjacent to Parcel A. Please verify that information provided in the HRA regarding Buildings 815 and 820 is accurate as written.**

Response: Buildings 815 and 820 are Formerly Utilized Defense Site (FUDS) administered by the U.S. Army Corps of Engineers (USACE), however they were addressed in the Draft Volume II HRA as they played a significant role in the radiological history of HPS. As discussed in the previous responses, all information in the Draft Volume II HRA is being reviewed, specifically cited in references, and expanded when possible for the Draft Final Volume II HRA. Buildings 815 and 820 have been radiologically cleared, are not in Parcel A, are not on Navy property and have no direct impact on the Parcel A FOST.

Specific Comments

1. **Comment:** **<u>Page 6-32, Section 6.6.1, Parcel A:</u> Building 815 was found in this discussion of buildings located in Parcel A, though the maps provided do not show it in Parcel A. Please verify that Building 815 was meant to be included as a part of Parcel A.**

   Response: As discussed in the response to General Comment 4, Building 815 is a FUDS administered by the USACE. Building 815 is not Navy property and is not in Parcel A. This will be clarified in the Draft Final Volume II HRA.

2. **Comment:** **<u>Page 6-33, Section 6.6.1, Parcel A, Building 815:</u> DHS was unable to find reference (NAVMED P-5055), which should contain the BuMed limits. Please provide these or provide the correct reference if this was a misprint.**

   Response: NAVMED P-5055 was not included in the references of the Draft Volume II HRA. The reference "SupShip 1979" included the unrestricted release limits that were established by NAVMED P-5055. The Draft Final Volume II HRA will include NAVMED P-5055 as a reference. For clarification purposes the release limits in NAVMED P-5005 circa 1979 are:

   LOOSE SURFACE CONTAMINATION LIMIT

   a. 450 pCi/100cm^2 beta/gamma $\approx$ 1,000 dpm/100cm^2

   b. 50 pCi/100cm^2 alpha $\approx$ 111 dpm/100cm^2

   UNRESTRICTED AREA:

   a. 2 millirem in any one hour.

   b. 100 millirem in any seven consecutive days.

   c. 500 millirem in a calendar year.

3. **Comment:** **<u>Page 6-33, Reference (TtEMI 1997):</u> On page 16 of 271, Page E-13, Section 2.3, in paragraph above the table, the information regarding the release of the 12 FUDS and Parcel E sites appears to be contained in reference document (PRC 1996d.) Please provide this reference and/or the unrestricted release documentation from the AEC or NRC.**

   Response: The unrestricted release letter issued by the AEC at the closure of NRDL is provided in Appendix B of the Draft Volume II HRA as reference "AEC 1970". The unrestricted release letter from the Nuclear Regulatory Commission (NRC) is provided in Appendix B of the Draft Volume II HRA as reference "NRC 1980."

4. Comment: **<u>Page 6-34, Section 6.6.1, Parcel A, Building 821:</u> Please provide the following information in this section:**

a. Please provide the date(s) when the x-ray unit was no longer used, moved, and the building vacated (unoccupied) and any references to this information.

b. Please provide information regarding any use or occupation of this building from the date it was vacated until currently. Reference TtEMI 1998 noted some floor stains inside this building; were these stains ever identified or investigated?

c. Could Building 821 have been used for storage of any material?

d. Were there any procedures, policies or guidelines to prevent the use of unoccupied, abandoned, or empty buildings at Hunters Point? Was special permission or documentation required to enter locked buildings at HPS?

Response: The Navy will include the requested information, as appropriate, in the Draft Final Volume II HRA. Preliminary information is provided below.

a. The one MeV x-ray unit was installed in 1956. Additional information on termination of use or relocation of the x-ray unit and when Building 821 was vacated have not been found. NRDL historical documents indicate Building 821 was no longer occupied following closure of the laboratory on December 31, 1969. NRDL prioritized transfer of radioactive sources (including machines) first to other naval activities and second to other government laboratories or non-profit laboratories and universities.

b. Available information indicates that Building 821 has not been used for anything other than equipment storage since NRDL was disestablished in 1969. The only documentation of floor stains in Building 821 is in the 1998 EBS. A physical inspection of Building 821 on August 26, 2002 identified only very small spots (less than 6 inches in diameter) that could be identified as stains. These areas are directly under ventilation ductwork. The inspection also identified areas on the concrete floor where the paint has worn off that could have been misidentified as stains. As no floor stains had been identified prior to issuance, the Parcel A ROD did not require any CERCLA action to identify or investigate the stains.

c. The only records reflecting storage of material in Building 821 are site inspection records that indicate compressed gas cylinders were stored in Building 821 after the NRDL was closed.

d. Since closure of HPS, security of buildings has been managed by the site caretaker's office. The security of Building 821 is unlikely to be

compromised given that it is a concrete structure with no windows and locked steel doors.

5. Comment: **<u>FIGURES, Figure 6-2:</u> The map from the draft HRA designated Figure 6-2 shows many buildings within Parcel A that appear to be colored a medium green (e.g., Building 813) to represent non-impacted buildings. Please address the following comments regarding this map:**

a. My interpretation of Parcel A from this map is that all land areas and buildings except Buildings 816 and 821 are considered non-impacted. Please that all of the buildings and land areas shown in Parcel A are accurately represented

b. Buildings 816 and 821 are colored dark green representing that no further action is required. DHS sent a memo, dated August 24, 2001, stating that with respect to radiological issues, Building 816 was acceptable for unrestricted release. The Navy's letter and attached revised page 6-33, dated April 11, 2002, states that Building 821 requires no further action. Please verify that the revision dated 4/11/02 is accurate.

Response:

a. All Parcel A land areas and buildings except Buildings 816 and 821 are considered non-impacted for radiological concerns.

b. The Navy contends that no further action is required for Building 821, consistent with the April 11, 2002 errata page 6-33. To allay regulatory and public concerns, the Navy inspected Building 821 for potential radiological contamination in May through July 2002 as an additional precaution. The initial results of this inspection were forwarded to DHS on June 12, 2002. Additional information is being provided at the request of DHS. The recent inspection has found no evidence of residual radioactive contamination in Building 821.

6. Comment: **<u>TABLES, Table 6-1, Page 1 of 3:</u> Please verify the information regarding Parcel A, Buildings 815, 816 and 821 is correct as written.**

Response: Building 815 is incorrectly included in Table 6-1 as being located in Parcel A. This will be corrected in the Final Draft Volume II HRA.

7. Comment: **<u>TABLES, Table 6-2, Page 1 of 5:</u> Are there any dates that can be associated with Parcel A building 821?**

Response: The exact dates Building 821 was built, occupied and vacated have not been found. NRDL historical documents indicate Building 821 was built in the 1950s. NRDL closure reports indicate the building was vacated prior to closure of the laboratory on December 31, 1969. Additional information, if located, will be provided in the Draft Final Volume II HRA.

RESPONSES TO CITY OF SAN FRANCISCO COMMENTS ON
PARCEL A FOST, REVISION 2
FOR HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

This document presents the Department of the Navy's (Navy) responses to comments from the City of San Francisco (City) Mayor's Office of Economic Development (SF MOED) on the Parcel A Finding of Suitability to Transfer (FOST), Revision 2 for Hunters Point Shipyard (HPS), San Francisco, California, dated March 26, 2002. The comments addressed below were received from SF MOED on June 4, 2002.

RESPONSES TO SF MOED

General Comments

1. Comment: **Like EPA and the state regulators, the City is very concerned about detections of methane gas adjacent to the Parcel E landfill and close to the Parcel A boundary. We agree that EPA should not concur in the FOST until the Navy can demonstrate to the EPA's and state's satisfaction that methane and other gases do not present a risk to human health and the environment on Parcel A or surrounding areas. We appreciate the efforts the Navy has taken so far to respond to concerns about methane gas and will continue to work with the Navy as it investigates and resolves these issues. The City will not be in a position to accept the transfer of Parcel A without concurrence from the regulators that Parcel A is suitable for transfer and reuse.**

Response: The Navy understands the City's position, and has already committed to the full investigation of landfill gas, and to further demonstrate that subsurface gas is not migrating onto Parcel A. The Navy will continue to gather data regarding the extent of methane migration and the rate of methane generation. The data will be evaluated to determine a control strategy that is not expected to impact Parcel A. Preliminary results indicate that subsurface methane has not been detected north of the University of California, San Francisco compound, which is over 100 feet from the Parcel A boundary. The Navy has installed seven permanent gas monitoring wells to verify that methane gas has not migrated onto or near Parcel A. The results were documented in a technical memorandum submitted on July 2, 2002.

The Navy understands that the City's acceptance of Parcel A, as outlined in the first addendum to the memorandum of agreement (MOA), is contingent upon environmental issues being adequately addressed in the FOST, and adjacency issues (notably the Parcel E landfill) being adequately addressed prior to execution of the conveyance agreement. The Navy is addressing comments raised by the Base Realignment and Closure (BRAC) Cleanup Team (BCT) to obtain their concurrence on the FOST. The Navy believes that completion of follow-on activities, as outlined in the responses to Comment 1 above and comment 2 below, will adequately address the environmental issues at Parcel A consistent with the MOA. In accordance with the MOA, the City's acceptance of Parcel A

will then be contingent upon the resolution of non-environmental transfer issues and finalizing the conveyance agreement between the Navy and the City.

2. Comment: **We also agree with EPA that unresolved issues surrounding buildings on or adjacent to Parcel A that may have contained radioactive materials must be fully resolved before EPA concurs with the FOST. Our previously submitted written comments on the draft Historical Radiation Assessment (HRA) detail our concerns. Perhaps most importantly, the HRA does not clearly answer the question, "is it safe"? The Navy needs to provide a more complete radiological assessment before the Navy can find, and the regulators concur, that Parcel A is suitable for transfer and reuse.**

Response: The Navy is committed to documenting that former Naval Radiological Defense Laboratory (NRDL) buildings located on Parcel A are suitable for unrestricted release. Buildings 816 and 821 are the only former NRDL buildings located on Parcel A. With respect to the City's question "is it safe?" the Navy wishes to clarify that a building deemed suitable for unrestricted release is considered to be safe for use with no restrictions.

At Building 821, documentation showed that no general radioactive material (G-RAM) was housed in the building; therefore, the Atomic Energy Commission (AEC) release for this building was not required during the survey performed by AEC from 1969 to 1970. Although formal release is not technically required, the Navy, since issuing the draft HRA Volume II, has inspected Building 821 for potential radiological contamination as an additional precaution. The results of the inspection have been forwarded to the California Department of Health Services (DHS) to support its concurrence with the unrestricted release of Building 821. The Navy will include updated correspondence from DHS regarding Building 821 in the FOST.

As noted in both the draft HRA Volume II and the FOST, DHS deemed Building 816 to be suitable for unrestricted release in its memorandum dated August 24, 2001. This determination was based on the initial radiological clearance in 1969 and additional surveys conducted in 1979, 1993, and 2001. All of the surveys performed at and around Building 816 found no residual radiological contamination that posed a threat to human health or the environment. The Navy will provide additional information in the final FOST that summarizes these findings.

The Navy has found no evidence of any potential impact on Parcel A from G-RAM issues associated with buildings located adjacent to Parcel A and, therefore, does not conclude that the Parcel A FOST is impacted by these buildings.

Navy welcomes comments from the City on the draft HRA and the Navy will respond to concerns in the draft final document.

3. Comment: **We continue to have substantive concerns about lead based paint chips on and below the surface of Parcel A. As discussed in detail below, we are concerned about: (i) whether the initial determination that the lead levels were below the Department of Toxic Substances Control's (DTSC's)**

acceptable level for lead of 221 mg/kg is valid; (ii) the amount of time that has elapsed since the Navy performed any lead in soil characterization; and (iii) the lack of data for the western portion of Parcel A (Lot 48).

In 1993, the Navy performed a limited characterization of lead-based paint in soil primarily in the area of Lot 53. The Navy performed supplemental sampling in 1997 in the same location. At that time, EPA allowed the Navy to average the results and compare them to DTSC's acceptable level of 221 mg/kg lead (which is also the cleanup goal for Parcel B). The comparison of the arithmetic mean of the 1993 and 1997 data sets to DTSC's acceptable level for residential use of 221 mg/kg is questionable. Typically, the appropriate comparison statistic is the 95-percent confidence interval of the mean. That statistic is a function of the variance of the data set and increases with an increase in the variance. Generally, the arithmetic mean is lower than the upper 95-percent confidence limit. Considering that the arithmetic mean of the data is 215 mg/kg and DTSC's acceptable level is 221 mg/kg, it is highly probable that the correct statistical comparison would show an exceedance of the DTSC's acceptable level.

The use of this questionable conclusion is exacerbated by the fact that there are more lead paint chips on the ground now than in 1997 when the last sampling was conducted. As EPA recognizes, over the last five years, the existing buildings have continued to weather and exfoliate. Based on the current condition of Parcel A, we believe that additional sampling should be conducted before the Navy can conclude (as it did in earlier versions of the FOST) that lead in soil at Parcel A does not pose a risk to human health and that no further action is required to protect human health. Additional soil sampling should be performed to confirm the results and conclusions of the 1997 supplemental survey, with additional sampling in Lot 48. This additional sampling should be performed using a random grid, and should focus on assessing the vertical distribution of lead in surface and near-surface soil to a depth of 2.0 feet below ground surface (bgs). Samples should be collected around the existing structures in Lots 49 through 54 and 56 and 57 and the remaining foundations in Lot 48. Prior to implementation of a sampling program, a sampling and analysis plan should be prepared and provided to the City and its developer for review and comment.

Response: The Navy stands behind the sampling and data evaluation approach used previously to address lead-based paint (LBP) concerns at Parcel A. As discussed in the FOST, the BCT reviewed the information and concluded that no further action (NFA) was required to protect human health and the environment. EPA provided the Navy with a concurrence letter supporting this NFA conclusion.

The Navy recognizes that a period of time can occur between issuing Comprehensive Environmental Response, Compensation, and Liability Act-related investigation documents and property conveyance and redevelopment. However, the Navy is obligated to comply with the Final LBP field guide that became effective on March 30, 2000. This guidance was jointly developed by EPA and the Department of Defense. In particular, because all Parcel A

residences will be demolished, the LBP field guide dictates that the transfer agreement will specify that the transferee will conduct soil sampling after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units in a manner consistent with Title X and Department of Housing and Urban Development guidelines. Sampling and assessment of soil by the Navy for LBP prior to transfer specifically is not required by the guidance in this instance.

The FOST will be revised to include the following restriction regarding LBP: "Due to the presence of lead-based paint on structures located at Parcel A, interim use of these structures prior to demolition is prohibited. The transferee will be responsible for managing all lead-based paint and potential lead-based paint hazards, including soil lead hazards, in compliance with the Residential Lead-Based Paint Hazard Reduction Act of 1992, 42 U.S.C. Section 4852d (Title X) and all applicable federal, state, and local laws and regulations. The transferee will conduct soil sampling after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units in a manner consistent with Title X and Department of Housing and Urban Development guidelines." A restriction discussing these general terms will be included in the deed.

In addition, the LBP notification provided in the FOST will be revised to be consistent with applicable authority (including 40 CFR Section 745.113 and 24 CFR Part 35).

4. **Comment:** **Finally, we believe that a significant data gap exists regarding the characterization of transformer locations within Parcel A. Approximately six pad-mounted and three pole-mounted transformers exist in Parcel A. However, the exact number of transformers located on the site today is uncertain, and some transformers may have been removed without adequate documentation. Visual inspections at the time of the Remedial Investigation (RI) indicated staining around portions of two of the transformer locations. Although trace levels of oils were observed, the impact of PCB contamination at transformer sites is not clear. Also, surface soil samples have not been collected from around the transformer locations for PCB analysis. These data gaps warrant further investigation.**

Response: The Navy believes that potential polychlorinated biphenyl (PCB) contamination from electrical transformers has been adequately investigated at Parcel A and that no data gaps exist. Contrary to the City's comment, the number of transformers currently located on Parcel A is known and has been confirmed several times, as described in Section 5.2.3 of the FOST. Six electrical transformers and two oil circuit breakers currently are present on Parcel A. This equipment contains PCBs at concentrations less than 5 parts per million (ppm). In 1999, stains on concrete foundations and floors around this equipment were resurveyed and cleaned. The Navy conducted several surveys and removals of PCB-containing electrical equipment at HPS to ensure compliance with applicable regulations. A chronological summary of these PCB surveys and removals is presented below:

- In 1988, 199 transformers were removed from service at HPS. None of

these transformers were specifically listed as originating on Parcel A. The original locations of 48 of the 199 transformers were not documented; however, there is no evidence that any of the transformers were originally on Parcel A.

- In 1988, all known oil-containing equipment at HPS was inventoried, inspected, and sampled for PCB content. No equipment included in this survey was located on Parcel A.

- As part of the 1992 site inspection (SI), the Navy conducted historical literature searches, personnel interviews, and site visits to ensure that all current and former transformer locations on Parcel A were identified. During the SI, nine electrical transformers and one former transformer location were identified on Parcel A. Three of the transformers were pole-mounted and six were mounted on concrete pads. During the SI, the transformers were inspected; while trace stains were observed on four of the pad-mounted transformers, no leaks were found and the concrete pads beneath these transformers were not stained. In addition, soil in the vicinity of the poles and pads was visually inspected for evidence of contamination (such as stains or oily substances) and the pads were inspected for cracks if contamination on the pads was observed. Trace staining was observed only on the pad at the former transformer location; however, further visual inspections conducted during the SI found no evidence of staining in the surrounding soil. Furthermore, the pad at the former transformer location overlies a basement and therefore does not have contact with subsurface soils. Based on these findings, the SI concluded that leakage of PCB-containing oil into the environment had not occurred and that, as a result, the transformer sites did not pose a potential risk to human health or the environment. Therefore, no further investigation of the Parcel A transformer sites was recommended in the SI.

- Since the completion of the RI, the Navy conducted further surveys and removals as part of the BRAC operation and maintenance program at HPS. Previous surveys and removals primarily targeted electrical equipment with PCB concentrations exceeding 50 ppm. As part of the BRAC operation and maintenance program, all electrical equipment (such as transformers and oil circuit breakers) containing PCBs at concentrations greater than 5 ppm was identified in 1996 and removed in 1998.

The Navy believes that the actions described above are sufficient to characterize the electrical transformer sites at Parcel A and support the NFA conclusion for these sites.

5. Comment: **The City requests that the Navy conduct the sampling (and any necessary follow-up) suggested in the above paragraphs expeditiously and concurrent with other Parcel A "adjacency" issues and the approval process for the Conveyance Agreement, to ensure that transfer of Parcel A is not delayed.**

Response: As outlined in the responses to Comments 1 through 4 above, the Navy does not believe that any additional sampling is required to further support the NFA ROD for Parcel A. The Navy does not intend to initiate any further investigations.

RESPONSES TO PUBLIC COMMENTS ON
PARCEL A FOST, REVISION 2
FOR HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

This document presents the Department of the Navy's (Navy) responses to comments received during the public comment period on the Parcel A Finding of Suitability to Transfer (FOST), Revision 2 for Hunters Point Shipyard (HPS), San Francisco, California dated March 26, 2002. The comments addressed below were received during the public comment period from March 27 to May 28, 2002.

RESPONSES TO PUBLIC COMMENTS

Comments from Ms. Kevyn Lutton, Bayview/Hunters Point Resident (received at April 18, 2002 public meeting)

1. Comment: **I don't understand why there are so few people that knew about this meeting. I happened to be at a TEK meeting last night and heard from another person that this was happening. Somebody said it was put in the Chronicle; most of us out here don't read the Chronicle. And even if it was, it is not an appropriate source to announce a meeting like this. There are lots of other appropriate ways of getting the community informed about this meeting; and as far as I know, they weren't used.**

Response: The Navy protocol followed the Community Relations Plan in effect for HPS and exceeded the Department of Defense (DoD) public notice requirements applicable for a FOST. Specifically, the Navy announced the public meeting at March 28, 2002 Restoration Advisory Board (RAB) meeting. The Navy also submitted public notices in the *San Francisco Chronicle* and the *San Francisco Bay View* newspapers on April 15 and April 17, 2002, respectively. Any specific comments on how the public notice process can be improved would be greatly appreciated. The Navy shares your frustrations with regards to poor attendance at the public meeting, and desires much greater public participation at these meetings.

2. Comment: **At the TEK meeting we discussed the presence of manganese, which is a serious problem in a lot of areas. We saw some maps where they did drill holes for Manganese and collected samples. There was none done on Parcel A. And since it is dispersed so widely throughout Hunters Point, I have some questions about: How -- without being surveyed for Manganese -- how can it be cleared? Especially I would like to put into the record the information that Manganese is a serious health problem in high concentrations, which it is on the point. And it is -- people with high melanin in their skin are particularly vulnerable to it. And I think a lot more research needs to be done on that question.**

Response: Manganese data were collected at Parcel A, and concentrations were below the Hunters Point Ambient Level of 1,400 milligrams per kilogram (mg/kg), with the exception of a basalt outcropping where naturally occurring manganese was detected at concentrations of 4,500 and 3,100 mg/kg. This hillside outcropping of

basalt is located approximately 500 feet west of Building 302 and was sampled and documented in the final manganese technical memorandum issued on December 21, 2001. The manganese concentrations at the hillside outcropping are consistent with ambient concentrations, as presented in the final technical memorandum. The manganese deposits found at HPS are attributed to chert and basalt bedrock types that are found most extensively in Parcel C. Parcel A is underlain primarily by serpentinite bedrock that does not typically contain elevated levels of manganese.

3. **Comment:** **What I don't understand is this meeting that took place in Washington between the Navy and Senator Pelosi and the Mayor and all that. It is like the community isn't clear why we have to hurry up fast, get this handed over to redevelopment? And I was just wondering if there was any input from the Navy on that?**

   Response: The Navy has been working with the community, the City of San Francisco (City), and Base Realignment and Closure Cleanup Team (BCT) since 1995 to document the environmental condition of Parcel A and prepare the property for transfer. The Parcel A no further action (NFA) Record of Decision (ROD) was signed in 1995 and the draft FOST was prepared in 1996. Subsequent versions of the FOST were prepared to respond to BCT and City comments and to incorporate additional information. The Navy fully supports the City's efforts to expedite redevelopment; however, the FOST has been prepared in accordance with state and federal guidelines, and sufficient time has been provided for all parties to adequately review the document. The current version of the Parcel A FOST is the second revision to the final document. The Navy has worked with the regulatory agencies for nearly 6 years and has issued five versions of the Parcel A FOST to reflect agency comments and updated information. From the Navy's perspective, the Parcel A FOST should be finalized without further delay.

4. **Comment:** **The other question I have is: There is a Bay Cat trailer out on Parcel A. And since it has not yet been transferred, I don't understand why there should be redevelopment work being done out there already.**

   Response: The Navy currently leases several areas at HPS to the San Francisco Redevelopment Authority. The City and their developer can provide additional information regarding this issue; however, the Navy wishes to clarify that no redevelopment construction is being conducted on Parcel A.

5. **Comment:** **(Additional comment from Ms. Lutton submitted in writing): Concerned about close proximity of Parcel A to Parcel E. How can anyone be confident that landfill gas will not migrate to Parcel A?**

   Response: All data available at the time the Navy prepared Revision 2 to the Parcel A FOST indicated no adjacent sites affected the transferability/environmental condition of property categorization of Parcel A. However, the Navy has already committed to the full investigation of landfill gas, and to further demonstrate that subsurface gas is not migrating onto Parcel A. The Navy will continue to gather data regarding the extent of methane migration and the rate of methane generation. The data will be evaluated to determine a control strategy that is not expected to

impact Parcel A. Preliminary results indicate that subsurface methane has not been detected north of the University of California, San Francisco compound, which is over 100 feet from the Parcel A boundary. The Navy has installed seven permanent gas monitoring wells to verify that methane gas has not migrated onto or near Parcel A. The results were documented in a technical memorandum submitted on July 2, 2002.

Additional written comments from Ms. Lutton (dated May 28, 2002)

6. In general I find too many contradictions among Navy documents. The following are some examples:

6.1 Comment: Building 815: Has not received a formal clearance letter from the California Department of Health Services. Also, the 1997 more stringent nuclide specific standards published in the Federal Register could change the clearance standards for both Buildings 815 and 816.

Response: Building 815 is neither on Parcel A nor on Navy property and is therefore not part of the property covered in the FOST. Building 815 is a Formerly Utilized Defense Site (FUDS) administered by the U.S. Army Corps of Engineers (USACE).

As noted in Attachment 4 of the FOST, DHS deemed Building 816 to be suitable for unrestricted release in its memorandum dated August 24, 2001. This determination was based on the initial radiological clearance in 1969, and additional surveys conducted in 1979, 1993, and 2001. All of the surveys performed at and around Building 816 found no residual radiological contamination that posed a threat to human health or the environment. The Navy will provide additional information in the final FOST that summarizes these findings.

6.2 Comment: Building 821: It is described in the HRA as a "two-story concrete building used by the NRDL as an x-ray facility." Machines producing ionizing radiation were used to conduct "irradiation experiments." It has not been inspected or investigated in the Parcel A ROD, nor was it investigated under Phases I through V of the Navy's Radiological Investigations, nor is it cited in the radiation section to Parcel A FOST. Building 821 still needs to be investigated under the Navy's 2002 NWT Phase V Radiological Investigation and then receive a formal clearance letter from the California Department of Health Services releasing it for unrestricted use as well as clearance from the EPA.

Response: As stated in the draft Historical Radiological Assessment (HRA) Volume II, documentation showed that no general radioactive material was housed in Building 821; therefore, the Atomic Energy Commission (AEC) release for this building was not required during the survey performed by the AEC from 1969 to 1970. The Navy has inspected Building 821 for potential radiological contamination as an additional precaution. The results of the inspection will be forwarded to the Department of Health Services (DHS) to support its concurrence with the unrestricted release of Building 821. The Navy will include updated

correspondence from DHS regarding Building 821 in the final FOST.

6.3 Comment: **<u>Building 816</u>: There is no documentation that the 1997 nuclide specific standards have been applied to its release by current clearance standards.**

Response: As noted in Attachment 4 of the FOST, DHS deemed Building 816 to be suitable for unrestricted release in its memorandum dated August 24, 2001. This determination was based on the initial radiological clearance in 1969, and additional surveys conducted in 1979, 1993, and 2001. All of the surveys performed at and around Building 816 found no residual radiological contamination that posed a threat to human health or the environment. The Navy will provide additional information in the final FOST that summarizes these findings.

6.4 Comment: **<u>Methane Gas</u>: Recent investigation of methane gas around the landfill on Parcel E revealed its presence is at explosive intensity at ground level within 100 feet of Parcel A. This fact should prevent release of Parcel A for development at this time because of methane's tendency to migrate horizontally and to be the carrier of other volatile compounds like benzene, toluene, and organic chlorides that are carcinogenic neurotoxic and respiratory irritants.**

Response: See response to comment 5 above.

6.5 Comment: **<u>Groundwater</u>: There is documented elevated levels of arsenic and petroleum products in Parcel A groundwater. Remediation has not been done. Nor has the Navy provided a map to precisely locate groundwater sampling sites (bore holes and open trenches) that reveal the water which is likely to contain VOCs, TPH, and metals, as a precautionary measure to prevent access to children and wild and domesticated animals.**

Response: As discussed in the Parcel A ROD, no action is required for groundwater at Parcel A, because no human or ecological receptors will be exposed to the groundwater. The NFA determination was based on several factors, as follows: (1) groundwater is not a potential drinking water source defined by Regional Water Quality Control Board Resolution No. 88-39, (2) groundwater at Parcel A has never been used as a drinking water source, and (3) groundwater occurs only in localized fractures within the bedrock. Therefore, the ROD did not consider the limited arsenic detections above the U.S. Environmental Protection Agency's (EPA) preliminary remediation goals to pose a risk to human health or the environment.

As discussed in the ROD and the FOST, the State of California agreed that NFA was required for the total petroleum hydrocarbons as motor oil detected in groundwater, based on the low concentrations found (less than 600 micrograms per liter). In addition, the boreholes and test pits installed as part of the Parcel A investigation were temporary and were immediately backfilled after sampling; therefore, no potential exposure exists to future Parcel A residents.

6.6 Comment: **<u>Manganese</u>: The Hazard Indices (HI) for the Neurotoxic Manganese calculated for childrens' exposure to soil in a residential area is greater than 1 on Parcel A. A HI greater than 1 is a predictor of adverse health effects.**

Response: As discussed in the Parcel A ROD, the HI for Installation Restoration (IR) Site 59JAI was based on concentrations of chromium, nickel, and manganese. The chromium and nickel concentrations at this site were close to ambient concentrations, and the HI was estimated to be less than 1, after these ambient concentrations were excluded (excluded based on Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] guidelines). In addition, the manganese concentrations at IR-59JAI, and elsewhere at Parcel A, are consistent with ambient concentrations, as discussed in the response to comment 2 above.

6.7 Comment: **<u>Radiologicals</u>: The final FOST for Parcel A must include a commitment by the Navy to sample for and remediate the presence of radiologicals as redevelopment proceeds.**

Response: The Navy is committed to documenting that former Naval Radiological Defense Laboratory (NRDL) buildings located on Parcel A are suitable for unrestricted release. As discussed in the FOST and in response to comment 6.3 above, Building 816 and the surrounding area have been deemed by DHS as suitable for unrestricted release. In addition, the Navy is pursuing a similar release for Building 821, as discussed in response to comment 6.2 above.

Comment from Ms. Lani Asher, RAB Member (received at April 18, 2002 public meeting)

1. Comment: **(Submitted in writing on note card): Why are there only four community Members present? Don't you feel it is a failure of public outreach?**

Response: The Navy protocol followed the Community Relations Plan in effect for HPS and exceeded the DoD public notice requirements applicable for a FOST. Specifically, the Navy announced the public meeting at March 28, 2002 RAB meeting. The Navy also submitted public notices in the *San Francisco Chronicle* and the *San Francisco Bay View* newspapers on April 15 and April 17, 2002, respectively. Any specific comments on how the public notice process can be improved would be greatly appreciated. The Navy shares your frustrations with regards to poor attendance at the public meeting, and desires much greater public participation at these meetings.

Comment from Mr. Jesse Blout, City of San Francisco (received at April 18, 2002 public meeting)

1. Comment: **Will there be an opportunity for further public comment at your open house a week from Saturday?**

Response: Yes, the public was provided an opportunity at the referenced open house. The Navy provided forms for the public to submit comments on the FOST at the April 25, 2002 RAB meeting and the April 27, 2002 community information fair.

Comments from Dr. Ahimsa Sumchai, RAB Member (dated April 25, 2002)

1. **Comment:** **I think it is highly unethical and borders on illegal misconduct that you have failed to fully disclose, investigate or offer remediation of Building 821 on Parcel A. In your own fact sheet dated 7/25/01 this building is not diagrammed. Building 821 last appears on a map in the Parcel A ROD.**

   Response: As stated in the draft HRA Volume II, documentation showed that no general radioactive material was housed in Building 821; therefore, AEC release for this building was not required during the survey performed by the AEC from 1969 to 1970. The Navy has inspected Building 821 for potential radiological contamination as an additional precaution. The results of the inspection will be forwarded to the DHS to support its concurrence with the unrestricted release of Building 821. The Navy will include updated correspondence from DHS regarding Building 821 in the final FOST. In addition, the Navy wishes to clarify that Building 821 was not included in the July 25, 2001, fact sheet that discussed FUDS because Building 821 is located on Parcel A and is not a FUDS.

2. **Comment:** **Building 815 on Parcel A should be signed off on by the California Department of Health Services as was Building 816.**

   Response: Building 815 is neither on Parcel A nor on Navy property and is therefore not part of the property covered in the FOST. Building 815 is a FUDS administered by the USACE.

3. **Comment:** **The Parcel A ROD identifies that arsenic was found in IR-59 groundwater at a PRG of 0.038 set in 1995. Its concentration was detected at 3.8 µg/l. This was elevated. The argument that groundwater is of low risk is not correct. The Navy sampled open boreholes and trenches for groundwater samples. A child or pet dog or cat could access this water living on Parcel A. Arsenic standards are 10 times more stringent.**

   Response: As discussed in the Parcel A ROD, no action is required for groundwater at Parcel A, because no human or ecological receptors will be exposed to the groundwater. The NFA determination was based on several factors, as follows: (1) groundwater is not a potential drinking water source defined by Regional Water Quality Control Board Resolution No. 88-39, (2) groundwater at Parcel A has never been used as a drinking water source, and (3) groundwater occurs only in localized fractures within the bedrock. Therefore, the ROD did not consider the limited arsenic detections above EPA preliminary remediation goals to pose a risk to human health or the environment. In addition, the boreholes and test pits installed as part of the Parcel A investigation were temporary and were immediately backfilled after sampling; therefore, no potential exposure exists to future Parcel A residents. Although drinking water standards for arsenic have recently been revised, these standards do not apply to Parcel A since the groundwater will not be used as a drinking water source.

4. **Comment:** **The hazard index (HI) for manganese detected in soil at IR-59JAI exceeded 1. This HI was calculated for children exposed to soil. Because it is above 1 it predicts non-carcinogenic health effects.**

Response: As discussed in the Parcel A ROD, the HI for IR-59JAI was based on concentrations of chromium, nickel, and manganese. The chromium and nickel concentrations at this site were close to ambient concentrations, and the HI was estimated to be less than 1, after these ambient concentrations were excluded (excluded based on CERCLA guidelines).

In addition, the manganese concentrations at IR-59JAI, and elsewhere at Parcel A, are consistent with ambient concentrations Manganese data were collected at Parcel A, and concentrations were below the Hunters Point Ambient Level of 1,400 mg/kg, with the exception of a basalt outcropping where naturally occurring manganese was detected at concentrations of 4,500 and 3,100 mg/kg. This hillside outcropping of basalt is located approximately 500 feet west of Building 302 and was sampled and documented in the final manganese technical memorandum issued on December 21, 2001. The manganese concentrations at the hillside outcropping are consistent with ambient concentrations, as presented in the final technical memorandum. The manganese deposits found at HPS are attributed to chert and basalt bedrock types that are found most extensively in Parcel C. Parcel A is underlain primarily by serpentinite bedrock that does not typically contain elevated levels of manganese.

5. **Comment:** **Motor oil and other petroleum products were detected in groundwater on Parcel A according to the FOST and the ROD. Petroleum products are specifically excluded from the definition of "hazardous substance" in Section 101 of CERCLA and was deemed; therefore, outside the scope of the ROD. The State of California has the authority to regulate remediation of motor oil in groundwater.**

Response: As discussed in the Parcel A ROD, no action is required for groundwater at Parcel A, because there is no complete exposure pathway to groundwater. The NFA determination was based on several factors, as follows: (1) groundwater is not a potential drinking water source defined by Regional Water Quality Control Board Resolution No. 88-39, (2) groundwater at Parcel A has never been used as a drinking water source, and (3) groundwater occurs only in localized fractures within the bedrock. As discussed in the ROD and the FOST, the State of California agreed that NFA was required for the total petroleum hydrocarbons as motor oil detected in groundwater, based on the low concentrations found (less than 600 micrograms per liter). In addition, the boreholes and test pits installed as part of the Parcel A investigation were temporary and were immediately backfilled after sampling; therefore, no potential exposure exists to future Parcel A residents.

6. **Comment:** **The presence of methane gas leakage along Crisp Avenue at the boundary of Parcel A and E is a source of potential flammable explosive gas that is present near the construction site of the proposed UCSF animal kennels.**

Response: All data available at the time the Navy prepared Revision 2 to the Parcel A FOST indicated no adjacent sites affected the transferability/environmental condition of property categorization of Parcel A. However, the Navy has already committed to fully investigating landfill gas, and to further demonstrating that subsurface gas is not migrating onto Parcel A. The Navy will continue to gather data regarding the extent of methane migration and the rate of methane generation. The data will be evaluated to determine a control strategy that is not expected to impact Parcel A. Preliminary results indicate that subsurface methane has not been detected north of the University of California, San Francisco compound, which is over 100 feet from the Parcel A boundary. The Navy has installed seven permanent gas monitoring wells to verify that methane gas has not migrated onto or near Parcel A. The results were documented in a technical memorandum submitted on July 2, 2002.

7. Comment: **The HRA documents groundwater pathways from HPS. Radionuclides have been detected in Parcel E monitoring wells at concentrations that exceed the EPA MCLs for drinking water. Groundwater at HPS flows radially outward toward the Bay and the groundwater pathway to the Bay can be a significant concern for radiological exposure.**

Response: As discussed in the Parcel A ROD, no action is required for groundwater at Parcel A, because no human or ecological receptors will be exposed to the groundwater. The NFA determination was based on several factors, as follows: (1) groundwater is not a potential drinking water source defined by Regional Water Quality Control Board Resolution No. 88-39, (2) groundwater at Parcel A has never been used as a drinking water source, and (3) groundwater occurs only in localized fractures within the bedrock.

In addition, information collected to date from groundwater investigations on adjacent parcels does not indicate migration of groundwater contamination onto Parcel A. Based on this information, the Navy believes that no further investigation regarding groundwater at Parcel A is required for conveyance. Concerns regarding potential radiological groundwater contamination and its impact on San Francisco Bay (Bay) do not have any bearing on the Parcel A FOST; this issue will be further investigated and evaluated as part of the remedial investigation (RI)/feasibility study process for the Parcel E.

8. Comment: **Northern California Bay Keepers sued Navy for Federal Clean Water Act violations in 1992 (Parcel D Astoria Metals, Leo O'Brien, Legal Director).**

Response: The area surrounding Dry Dock 4, formerly leased to Astoria Metals Corporation (AMC), was located on Parcel C and D, not Parcel A. The Navy subsequently has terminated the lease to AMC, and Dry Dock 4 is no longer being used. In addition, the Navy recently has completed a removal action to encapsulate contaminated sediment present in drainage culverts at Dry Dock 4 to ensure protection of the Bay.

9. Comment: **Arsenic in groundwater and radium in groundwater flows radially to bay per HRA.**

Response: See response to comment 7 above.

10. Comment: **Shifting boundary of Parcel B inland to create FOST shifts contaminated regions of Parcel B into Parcel F.**

Response: **Proposed boundary changes to the Parcel B shoreline affect the Parcel F boundary. These changes have no bearing on the Parcel A FOST and have not been finalized. The FOST presented boundary changes in two locations, as follows:**

- **The boundary was expanded in the southeastern portion of the parcel to include a part of Fisher Avenue that previously was in Parcels C and D. This change was made to better accommodate the City's redevelopment plans. The Navy verified that no soil or groundwater contamination was present in this area, based on investigations conducted to date at Parcels C and D.**
- **The boundary also was changed in a small area in the northern part of the parcel. This change moved a small portion of land from Parcel A to Parcel B, because it was close to areas in Parcel B that underwent cleanup between 1998 and 2001. The Navy recently discovered (based on updated field information) that one Parcel B excavation extended into Parcel A and one excavation was very near the boundary of Parcel A. Although confirmation samples collected in these excavations met the cleanup goals for residential reuse, the agencies have not had the opportunity to review the data yet, so the boundary was modified to (1) move both excavations completely into Parcel B and (2) include a buffer zone at least 20 feet wide between each excavation and the Parcel A boundary.**

Comments from Arc Ecology (dated May 24, 2002)

1. Comment: **NRDL used parts of Parcel A and as a result radioactive materials may have contaminated certain buildings or grounds. The Navy has not yet finalized a complete assessment of potential radiological contamination at Parcel A. The Navy should finalize the Historical Radiological Assessment before determining that Parcel A is suitable for transfer. In particular the Navy should provide evidence that the 0.1 acre yard adjoining Building 816 has been sampled and cleared of radiological contamination (see Figure 1).**

Response: The Navy's position is that finalization of the HRA is not required for completion of the FOST. However, the Navy is committed to documenting that former NRDL buildings located on Parcel A are suitable for unrestricted release. As discussed in the FOST, Building 816 and the surrounding area have been deemed by DHS as suitable for unrestricted release. In addition, the Navy is pursuing a similar release for Building 821. Although documentation showed that no general radioactive material was housed in the building, the Navy has inspected Building 821 for potential radiological contamination as an additional precaution. The results of the inspection will be forwarded to the DHS to support its concurrence with the unrestricted release of Building 821. The Navy will include updated

correspondence from DHS regarding Building 821 in the final FOST.

2. **Comment:** **During remedial investigation at Parcel A, the Navy discovered contaminated sandblast grit under pipes at IR-59. The Navy cleaned up this pocket of sandblast grit; however, a comprehensive survey for other areas of sandblast grit at Parcel A was not conducted. I believe it is possible that sandblast grit will be found at other locations on Parcel A. The Navy should disclose this possibility in the FOST and state that the Navy is responsible for remediating any additional sandblast grit discovered on Parcel A during redevelopment.**

   Response: The Parcel A RI did not identify any additional sandblast grit disposal sites; however, the Navy acknowledges that future discoveries of sandblast grit underlying subsurface utilities are possible. The Navy's CERCLA warranty as presented in the FOST, and later in the deed for Parcel A, will extend to cover any such discoveries during site redevelopment.

3. **Comment:** **Navy should disclose in the FOST residual risk levels as reported in the Remedial Investigation.**

   Response: The Navy will revise the FOST to include a brief overview on residual risk at Parcel A that was previously presented in the RI and the ROD.

4. **Comment:** **Methane releases have been discovered near the Parcel A boundary, on Parcel E. The Navy has not defined the full extent of this methane release, nor has the Navy determined whether toxic VOCs are associated with these methane releases. The Navy should finalize this investigation prior to determining that Parcel A is suitable for transfer. The Navy also should provide evidence that no preferential pathways exist that could transport gas from the landfill area to Parcel A.**

   Response: All data available at the time the Navy prepared Revision 2 to the Parcel A FOST indicated no adjacent sites affected the transferability/environmental condition of property categorization of Parcel A. However, the Navy has already committed to the full investigation of landfill gas, and to further demonstrate that subsurface gas is not migrating onto Parcel A. The Navy will continue to gather data regarding the extent of methane migration and the rate of methane generation. The data will be evaluated to determine a control strategy that is not expected to impact Parcel A. Preliminary results indicate that subsurface methane has not been detected north of the University of California, San Francisco compound, which is over 100 feet from the Parcel A boundary. The Navy has installed seven permanent gas monitoring wells to verify that methane gas has not migrated onto or near Parcel A. The results were documented in a technical memorandum submitted on July 2, 2002.

5. **Comment:** **Figure 2-1 of the Parcel A remedial investigation shows the 1935 shoreline extending past Crisp Avenue and under Buildings 816 and 808. The Navy should provide evidence in the FOST that the landfill debris does not, in fact, cross Crisp Avenue.**

Response: The aerial photographs presented in the 1998 Environmental Baseline Survey indicate that Crisp Avenue and Buildings 816 and 808 were constructed between 1935 and 1946, as part of the cut and fill activities that expanded the land area of HPS. In contrast, filling activities at the Parcel E industrial landfill were conducted primarily between 1946 and 1969. Based on this evidence, the Navy believes that it is unlikely that landfill debris extends into or across Crisp Avenue. This conclusion is consistent with the preliminary findings of the Navy's ongoing landfill data gaps investigation.

6. **Comment:** **The last lead-based paint survey was conducted in 1993. The buildings on Parcel A have been allowed to deteriorate significantly since then. Without more recent soil testing, the Navy can not make a determination that lead-based paint has not been released into the environment as a result of the Navy allowing the buildings to deteriorate.**

Response: The Navy wishes to clarify that the most recent lead-based paint (LBP) sampling was conducted in 1997. The Navy is obligated to comply with the Final LBP field guide that became effective on March 30, 2000. This guidance was jointly developed by EPA and the DoD. In particular, because all Parcel A residences will be demolished, the LBP field guide dictates that the transfer agreement will specify that the transferee will conduct soil sampling after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units, in a manner consistent with Title X and Department of Housing and Urban Development guidelines.

The FOST will be revised to include the following restriction regarding LBP: "Due to the presence of lead-based paint on structures located at Parcel A, interim use of these structures prior to demolition is prohibited. The transferee will be responsible for managing all lead-based paint and potential lead-based paint hazards, including soil lead hazards, in compliance with the Residential Lead-Based Paint Hazard Reduction Act of 1992, 42 U.S.C. Section 4852d (Title X) and all applicable federal, state, and local laws and regulations. The transferee will conduct soil sampling after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units in a manner consistent with Title X and Department of Housing and Urban Development guidelines." A restriction discussing these general terms will be included in the deed.

In addition, the LBP notification provided in the FOST will be revised to be consistent with applicable authority (including 40 CFR Section 745.113 and 24 CFR Part 35).

Comments from Mr. Lynne Brown, RAB Member (dated May 28, 2002)

1. **Comment:** **Sandblast grit IR-59 JAI under pipes.**

Response: The Parcel A RI did not identify any sandblast grit disposal sites; however, the Navy acknowledges that future discoveries of sandblast grit underlying subsurface utilities are possible. The Navy's CERCLA warranty as presented in

the FOST, and later in the deed for Parcel A, will extend to cover any such discoveries during site redevelopment.

2. Comment: Manganese

Response: Manganese data were collected at Parcel A, and concentrations were below the Hunters Point Ambient Level of 1,400 mg/kg, with the exception of a basalt outcropping where manganese was detected at concentrations of 4,500 and 3,100 mg/kg. This hillside outcropping of basalt is located approximately 500 feet west of Building 302 and was sampled for the manganese technical memorandum issued final on December 21, 2001. The manganese concentrations at the hillside outcropping are consistent with ambient concentrations, as presented in the final technical memorandum. The manganese deposits found at HPS are attributed to chert and basalt bedrock types that are found most extensively in Parcel C. Parcel A is underlain primarily by serpentinite bedrock that does not typically contain elevated levels of manganese.

3. Comment: Cooling tanks on top of Building 815

Response: Building 815 is neither on Parcel A nor on Navy property and is therefore not part of the property covered in the FOST. Building 815 is a FUDS administered by USACE.

4. Comment: 2 D-con tanks 815

Response: Building 815 is neither on Parcel A nor on Navy property and is therefore not part of the property covered in the FOST. Building 815 is a FUDS administered by USACE.

5. Comment: Methane mix migration

Response: The Navy has already committed to the full investigation of landfill gas, and to further demonstrate that subsurface gas is not migrating onto Parcel A. The Navy will continue to gather data regarding the extent of methane migration and the rate of methane generation. The data will be evaluated to determine a control strategy that is not expected to impact Parcel A. Preliminary results indicate that subsurface methane has not been detected north of the University of California, San Francisco compound, which is over 100 feet from the Parcel A boundary. The Navy has installed seven permanent gas monitoring wells to verify that methane gas has not migrated onto or near Parcel A. The results were documented in a technical memorandum submitted on July 2, 2002.

6. Comment: Lead in soil

Response: The Navy is obligated to comply with the Final LBP field guide that became effective on March 30, 2000. This guidance was jointly developed by EPA and the DoD. In particular, because all Parcel A residences will be demolished, the LBP field guide dictates that the transfer agreement will specify that the transferee will conduct soil sampling after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units, in a manner

consistent with Title X and Department of Housing and Urban Development guidelines.

The FOST will be revised to include the following restriction regarding LBP: "Due to the presence of lead-based paint on structures located at Parcel A, interim use of these structures prior to demolition is prohibited. The transferee will be responsible for managing all lead-based paint and potential lead-based paint hazards, including soil lead hazards, in compliance with the Residential Lead-Based Paint Hazard Reduction Act of 1992, 42 U.S.C. Section 4852d (Title X) and all applicable federal, state, and local laws and regulations. The transferee will conduct soil sampling after demolition and removal of demolition debris and prior to occupancy of any newly constructed dwelling units in a manner consistent with Title X and Department of Housing and Urban Development guidelines." A restriction discussing these general terms will be included in the deed.

In addition, the LBP notification provided in the FOST will be revised to be consistent with applicable authority (including 40 CFR Section 745.113 and 24 CFR Part 35).

7. Comment: Asbestos in soil

Response: As discussed in the FOST, there is no damaged, friable asbestos-containing building material (ACBM) or ACBM debris present at Parcel A that could impact shallow soil. Naturally occurring asbestos may be present in the serpentinite bedrock underlying Parcel A; however, asbestos related to bedrock would not be attributed to Navy activities and would not be included in the CERCLA process. Human health concerns related to naturally occurring asbestos in soil would need to be addressed, in accordance with health and safety guidelines, during site redevelopment.

8. Comment: Chemicals in the shelters below homes in Parcel A

Response: The Navy requires additional clarification to adequately respond to this comment. If the comment is in reference to potential concerns in basements of future Parcel A residences, then the Navy would refer Mr. Brown to Section 5.2.4 of the FOST that discusses radon, a gas that can accumulate in basement spaces from naturally occurring bedrock.

ATTACHMENT 4
RESOLUTION OF THE RESPONSES TO AGENCY COMMENTS ON THE FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A, REVISION 2, DATED AUGUST 26, 2002

PROPOSED RESOLUTION OF
RESPONSES TO REGULATORY AGENCY COMMENTS ON
PARCEL A FOST, REVISION 2
FOR HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

This document presents the U.S. Department of the Navy's (Navy) proposed resolution of issues identified by the U.S. Environmental Protection Agency (EPA), the California Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control (DTSC) on the "Parcel A Finding of Suitability to Transfer (FOST), Revision 2, Hunters Point Shipyard (HPS), San Francisco, California," dated March 26, 2002. The unresolved comments address the Navy's responses to comments submitted on August 26, 2002, and September 5, 2002. The unresolved comments were received from EPA on October 7, 2002; from RWQCB on September 10, 2002; and from DTSC on October 22, 2002.

RESPONSES TO EPA

1. Comment: **EPA has reviewed the Navy's responses to EPA's comments on the Finding of Suitability to Transfer, Revision 2, Parcel A, Hunters Point Shipyard document. The Navy has adequately addressed most of EPA's comments. However, as of the date of this letter, two EPA comments are not yet fully resolved and therefore, at this time, EPA cannot concur that Parcel A is suitable to transfer. The two comments, also discussed in EPA's May 7, 2002 cover letter, are: EPA Comment 11 and EPA Comment 13.**

Regarding Comment 11, it is EPA's understanding that Department of Health Services (DHS) review of the Navy's request for clearance of building 821 is still pending. DHS requested revisions to the package which the Navy intended to submit to DHS the week of 9/30/02. EPA considers this comment unresolved at this time as DHS review of the Navy's revised package is still ongoing. EPA expects that this comment will be fully resolved in the next several weeks once DHS has had an opportunity to review and comment on the revised documentation for Building 821.

Response: The Navy received a letter from the California Department of Health Services (DHS) on November 15, 2002, indicating that, based on information provided by the Navy and a confirmation survey performed by DHS, there is no residual radioactive contamination present in Building 821 (DHS 2002). Based on this finding, DHS deemed Building 821 acceptable for unrestricted release. The DHS letter is included as Attachment 7 to the draft final FOST, Revision 2.

In addition, research performed as part of the draft final historical radiological assessment (HRA) contains a finding that additional radiological surveys are required at Building 813, Building 819 (Pump Station "A"), and sanitary sewer main lines associated with Building 819, including those along Fisher and Spear Avenues. Due to this finding, the Parcel A boundary has been revised to exclude these locations in order to remove any potential impact to Parcel A.

The upcoming draft final HRA will provide additional detail regarding the radiological history at these locations. The Navy needs additional time to confirm that radiological contamination does not exist, and to obtain concurrence from the DHS on the unrestricted release of the buildings. This situation prompted the Navy to realign the Parcel A boundary to allow the property transfer process to move forward.

2. **Comment:** **Regarding Comment 13, EPA commends the Navy's efforts to aggressively address the landfill gas issue and appreciates the Navy's willingness to work closely with the regulators to ensure protection of Parcel A. However, as of this writing, the landfill gas and potential impacts on Parcel A are not fully understood or addressed. Therefore, this remains an unresolved comment and, at this time, EPA cannot concur that Parcel A is suitable to transfer. The Navy is nearing completion of the landfill gas removal system. Once construction is completed, the Navy will conduct a landfill gas monitoring program. EPA will need to review the results of several rounds of monitoring in order to be able to concur that the landfill gas poses no current or future threat to Parcel A.**

Response: Since the draft FOST, Revision 2 was issued in March 2002, the Navy has installed a landfill gas extraction and control system, under a time-critical removal action (TCRA), to:

(1) Remove methane gas from the subsurface at the University of California at San Francisco (UCSF) compound located north of the Parcel E Industrial Landfill, and

(2) Prevent future migration of methane gas onto the UCSF compound at concentrations above regulatory limits.

To address the first goal of the removal action, from October 2002 to January 2003, methane was rapidly removed to a concentration below 5 percent by volume in air at nine gas extraction wells within the UCSF compound, and a tenth extraction well located to the east of the UCSF compound.

To address the second goal of the removal action, from September to October 2002, a barrier wall and venting system were installed 6 to 10 feet south of the UCSF fence line, and north of the landfill waste. The barrier wall consists of an 80-mil vertical high-density polyethylene barrier installed across the vadose zone, north of the venting system. The bottom elevation of the barrier wall was installed below the seasonal low groundwater table. The venting system consists of a gravel vent trench, and horizontal-slotted polyvinyl chloride piping embedded in the gravel trench and discharging to four vertical vents with treatment units.

Operational data indicates that the system is effectively venting methane from the trench and controlling gas migration. Gas control has been achieved primarily by passive venting; however, active extraction at a rate of about 5 cubic feet per minute has been required occasionally within the vent trench to prevent

migration. In addition to the occasional active extraction within the vent trench, the Navy performed active gas extraction from one gas monitoring probe (GMP) on the UCSF compound (GMP24) in October 2003 to remove a localized pocket of methane gas. Currently, the Navy is performing regular gas monitoring to verify the performance of the gas control system.

In addition to completing the landfill gas TCRA, the Navy is developing an interim landfill gas monitoring and control plan using Title 27 of the California Code of Regulations as a guide. The Navy plans to issue the draft plan in April 2004. The monitoring network to be covered in the plan consists of:

- UCSF Fence Line GMPs: GMPs located about 150 feet apart along the UCSF fence line, and additional GMPs located along the western fence line, between the landfill and adjacent non-Navy property. The GMPs at the UCSF fence line are considered the regulatory compliance points and are being monitored to ensure that methane levels are below 5 percent by volume in air.

- UCSF Compound GMPs: Five additional GMPs installed within the UCSF compound to monitor methane levels during the removal action. These additional GMPs are not compliance points, but provide additional data to ensure that the fence line GMPs are effective in monitoring potential landfill gas migration.

- Crisp Avenue GMPs: Seven GMPs along Crisp Avenue installed to provide additional data regarding potential landfill gas migration. The Navy agreed to install the Crisp Avenue GMPs to address "adjacency" concerns from the regulatory community and the public regarding the proximity of the landfill to Parcel A. The Navy has also recently installed six additional GMPs along Crisp Avenue to alleviate additional agency concerns that the existing Crisp Avenue GMPs may not be screened deep enough to intercept gas migrating above the lowest potential groundwater elevation.

The Navy has performed regular monitoring at the GMP network described above, and the data collected since active extraction on the UCSF compound was completed in January 2003 provides a valuable base of data to demonstrate that landfill gas is being effectively controlled. The Navy has also initiated a monthly gas monitoring program in January 2004 that includes a contingency to perform active extraction to ensure that landfill gas does not migrate beyond the UCSF fence line at levels above regulatory limits.

The Navy is working closely with the California Integrated Waste Management Board (CIWMB) to ensure that prompt, appropriate actions are taken if elevated concentrations of methane are detected beyond the compliance point. An example of such an action occurred in January 2004, when the Navy performed active extraction within the vent trench to address elevated methane concentrations detected at several UCSF fence line GMPs. The CIWMB, as well as other regulatory agency representatives, were promptly informed of this situation.

In addition, the Navy has met with the CIWMB and obtained its concurrence that the monitoring program, including the contingency to actively extract landfill gas, is an appropriate means of controlling off-site migration of landfill gas. The Navy is committed to performing regular landfill gas monitoring and taking necessary response actions to ensure that there is no off-site migration of landfill gas.

Based on the landfill gas data collected since January 2003, landfill gas has been effectively controlled at two locations: the UCSF fence line, with the barrier wall and venting system; and within the UCSF compound, by periodic active extraction. The Navy has determined that the current system and procedures ensure that landfill gas will not migrate into the UCSF compound and beyond to Crisp Avenue, and the Navy will continue to perform regular landfill gas monitoring at the Crisp Avenue GMPs to confirm that landfill gas is not migrating to Crisp Avenue.

The available data from the Crisp Avenue GMPs, which includes 6 months of monitoring using field instruments and 2 rounds of laboratory data, demonstrate that methane is not present and that the concentrations of non-methane organic compounds are within acceptable risk-based limits (Tetra Tech EM, Inc. [Tetra Tech] 2003b). The Navy has determined that the "adjacency issues" related to landfill gas are adequately addressed by the available data from the Crisp Avenue GMPs, and by the current performance of the landfill gas control system. As a result, the Navy's finding, as documented in the FOST, is that landfill gas emanating from the Parcel E landfill does not pose a current or a significant future threat to Parcel A.

3. Comment: **In summary, the Navy has addressed all but two of EPA's comments on the FOST Revision 2 for Parcel A. The Navy is effectively communicating with EPA on these two remaining issues and is clearly moving forward toward their full resolution. However, at the time of this writing, EPA considers these two comments unresolved. We are hopeful that these comments will be fully resolved in the near future. EPA requests that the Navy delay issuing the Draft Final FOST until these two remaining issues are fully resolved. This will facilitate the final review and concurrence process.**

Response: In January 2003, the Navy agreed to delay submittal of the draft final FOST, Revision 2, in order to resolve radiological and landfill gas issues. Based on the information summarized in the responses to comments 1 and 2 above, the Navy has determined that the available information adequately resolves the radiological and landfill gas issues identified by EPA.

4. Comment: **In addition, while a detailed property description is not required in a FOST, EPA is concerned that the property description of Parcel A in the FOST Revision 2 may be too vague. In its response to EPA Comment 5, the Navy agreed to label the streets of Figure 3 so that the map of Parcel A is more detailed and the boundaries clearer. Figure 2 which is directly referenced in the property description section of the FOST Revision 2, should also be revised so that major streets are labeled. If possible, EPA would like to**

request that the Navy revise Figures 2 to and 3 to include major streets and street names and provide EPA with review copies prior to issuance of the Draft Final so that we can confirm our understanding regarding the 87 acres proposed for transfer in the Parcel A FOST Revision 2.

Response: The Navy has revised Figures 2 and 3 to label major streets for clarity, and has provided draft copies of these figures for agency review prior to submittal of the draft final FOST, Revision 2. The revised Figures 2 and 3 reflect the additional boundary changes discussed in the response to comment 1 above.

RESPONSES TO RWQCB

1. **Comment:** **Regarding RWQCB General Comment 5, the Navy states that they will decommission two existing wells and one piezometer, however no details are provided. Based on the Navy's response to RWQCB's comment regarding well abandonment in the Parcel A ROD (November 16, 1995, Page A-11), it is our understanding that the Navy agreed to properly destroy the wells prior to transfer of Parcel A unless the future owners plan to continue groundwater monitoring with the wells.**

   The RWQCB requests the Navy provide a work plan for our approval detailing the decommissioning of the two wells and the piezometers located within Parcel A. The work plan should include past analytical data and the collection and analysis of groundwater samples from the two monitoring wells and the piezometer for all COPCs prior to the appropriate destruction and decommission, unless groundwater samples have been collected and analyzed for all COPCs within the past 6 months. Analytical results should demonstrate consistency with past analytical data to support well destruction.

   Response: The Navy has decommissioned the remaining two monitoring wells and one piezometer on Parcel A. Information regarding the well decommissioning is included as Attachment 5 of the draft final FOST, Revision 2. The Navy wishes to clarify that the Parcel A Record of Decision (ROD) detailed that no further investigation was warranted to address groundwater at Parcel A.

2. **Comment:** **Regarding RWQCB Specific Comment 4, please note that RWQCB petroleum contaminated soil action levels may be different from petroleum contaminated soil reuse criteria, particularly in areas designated for unrestricted reuse. This will be discussed during the HPSY Petroleum Meeting scheduled for September 18, 2002, at the RWQCB.**

   Response: The Navy understands the RWQCB's concerns regarding petroleum hydrocarbon concentrations in soil, particularly in areas slated for unrestricted reuse. The Parcel A ROD determined that no further action was required at any Installation Restoration (IR) or Site Inspection sites located within Parcel A, including those investigated for petroleum hydrocarbons.

3. **Comment:** **The deed notification of petroleum motor oil contaminated groundwater should include language similar to the following statement. "Groundwater contaminated with petroleum motor oil at the concentrations detected in the shallow bedrock aquifer underlying Parcel A presents a potential health risk if used as a municipal or domestic drinking water source. The City of San Francisco's Groundwater Policy, excluding future groundwater development of the bedrock aquifer, serves to protect human health from any potential risks associated with the residual petroleum groundwater contamination."**

   Response: The Navy will incorporate the language recommended by the RWQCB into the draft final FOST and the deed.

4. **Comment:** **Typographical: Numerous typographical errors were generated during the transposition of RWQCB original comments to the response format. Please review our original comments for corrections.**

   Response: The Navy has revised the responses to comments to correct these typographical errors, and has included them in Attachment 3 of the draft final FOST, Revision 2.

RESPONSES TO DTSC

1. **Comment:** **We believe all "adjacency issues," including the landfill gases found in the University of California at San Francisco (UCSF) compound, should be addressed as part of resolution for the transfer of Parcel A and not as an isolated activity at adjacent parcels.**

   Response: The Navy understands DTSC's position and has determined that, during the 16 months since these comments were received, all "adjacency issues" affecting the transfer of Parcel A have now been addressed. As discussed in the response to EPA comment 2, the Navy has determined that the "adjacency issues" related to landfill gas are adequately addressed by the available data from the Crisp Avenue GMPs, and by the current performance of the landfill gas control system.

2. **Comment:** **The Navy is yet to provide sufficient evidence that the newly constructed landfill gas barrier and gas collection systems are operating successfully.**

   Response: As discussed in the response to EPA comment 2 and DTSC comment 1 above, the Navy has determined that, during the 16 months since these comments were received, the "adjacency issues" related to landfill gas are adequately addressed by the available data from the Crisp Avenue GMPs, and by the current performance of the landfill gas control system.

3. **Comment:** **The Navy is yet to receive release from California Department of Health Services for unrestricted use for Parcel A.**

Response: The Navy is committed to documenting that the former Naval Radiological Defense Laboratory (NRDL) buildings located on Parcel A, Buildings 816 and 821, are suitable for unrestricted release. It is the Navy's understanding that DHS does not approve the release of whole parcels of land, but rather specific buildings that are known or suspected to have housed general radioactive material.

As presented in the draft FOST, Revision 2, Building 816 and the surrounding area have been deemed by DHS as suitable for unrestricted release in a letter dated August 24, 2001. In addition, the Navy received a letter from DHS on November 15, 2002, indicating that, based on information provided by the Navy and a confirmation survey performed by DHS, there is no residual radioactive contamination present in Building 821. Based on this finding, DHS deemed Building 821 acceptable for unrestricted release (DHS 2002). The DHS letter regarding Building 821 is included as Attachment 7 to the draft final FOST, Revision 2.

4. **Comment:** **Without legal description of the Parcel A boundary, we need assurance from the Navy that the Parcel A boundary is such that there is no contaminated area for unrestricted use within Parcel A.**

Response: The Navy has determined that the finding of suitability to transfer for Parcel A is accurate, and that the figures provided in the FOST provide sufficient detail to support this determination. The legal description of the Parcel A boundary will be included in the deed, and will be consistent with the boundary presented in the final FOST, Revision 2.

5. **Comment:** **We would also prefer that the Navy not to issue draft final Finding of Suitability to Transfer (FOST) Revision 2 until the new information is available.**

Response: In January 2003, the Navy agreed to delay submittal of the draft final FOST, Revision 2, in order to resolve radiological and landfill gas issues. Based on the information summarized in the responses to EPA comments 1 and 2, the Navy has determined that the available information adequately resolves the radiological and landfill gas issues.

PROPOSED RESOLUTION OF
RESPONSES TO CITY OF SAN FRANCISCO COMMENTS ON
PARCEL A FOST, REVISION 2
FOR HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

This document presents the Navy's proposed resolution of issues identified by the City of San Francisco Mayor's Office of Economic Development (SF MOED) on the Parcel A FOST, Revision 2 for HPS, San Francisco, California, dated March 26, 2002. The unresolved comments address the Navy's responses to comments submitted on August 26, 2002. The unresolved comments were received from SF MOED on October 4, 2002.

RESPONSES TO SF MOED

General Comments

1. Comment: **The purpose of releasing the August 26th document at this time, as stated in an accompanying cover letter, is to have the regulators identify any outstanding issues that require resolution prior to finalization of the FOST. The Navy then indicates, in the same cover letter, that upon receipt of the outstanding issues list from regulators, it will immediately (within two weeks) issue a Draft Final FOST, Revision 2. The City is concerned that issuance of a Draft Final FOST at this time will lead to public confusion.**

The BCT members have previously communicated to the Navy the additional information that they wished to receive before they would be willing to concur with the Navy's conclusions in the FOST for Parcel A, Revision 2. The City likewise communicated its concerns regarding outstanding issues. The Navy's responses to the City's comments, including in particular, numbers 1 and 2, demonstrate that the Navy does not believe it has sufficiently completed the work related to methane or received all regulatory documentation previously asked for by the City and the BCT. The City asks that the Navy reconsider its stated intent to immediately release a draft Final FOST, Revision 2, before its activities related to methane have been completed to the satisfaction of all regulators and before it has obtained all California regulatory agency documentation related to radiation or has resolved any other issues identified by the regulators.

Response: In January 2003, the Navy agreed to delay submittal of the draft final FOST, Revision 2, in order to resolve radiological and landfill gas issues. Based on the information summarized in the responses to EPA comments 1 and 2, the Navy has determined that the available information adequately resolves the radiological and landfill gas issues.

2. Comment: **When the Navy has completed all of its remaining work on any outstanding issues raised by the regulatory agencies or the City, the Navy should provide a written statement explaining how it has resolved the outstanding issues. The written summary should become part of the Draft Final FOST. The Navy would then seek concurrence from the regulators on a Draft Final FOST that would include the written explanation of the additional actions the Navy has taken and additional documentation that it has received since issuance of the Draft FOST Revision 2 last March. The City recommends this revised approach as it will give the public, as well as the regulators, an opportunity to review a complete record, before drawing conclusions about the readiness of Parcel A for transfer.**

Response: The Navy has determined that, during the 16 months since these comments were received, all issues affecting the transfer of Parcel A have now been addressed. These responses represent the Navy's proposed resolution of these issues, and are included as Attachment 4 the draft final FOST, Revision 2.

PROPOSED RESOLUTION OF
RESPONSES TO PUBLIC COMMENTS ON
PARCEL A FOST, REVISION 2
FOR HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

This document presents the Navy's proposed resolution of issues identified by Dr. Ahimsa Sumchai on the Parcel A FOST, Revision 2 for HPS, San Francisco, California dated March 26, 2002. The unresolved comments address the Navy's responses to comments submitted on August 26, 2002. The unresolved comments were received from Dr. Sumchai via electronic mail on September 20, 2002.

RESPONSES TO PUBLIC COMMENTS

Comments from Dr. Ahimsa Sumchai, Restoration Advisory Board Member

1. Comment: **EPA Response section: Question 1- EPA asks for definition of added subparcels. Please provide documentation including a NEPA warranty of public health that added subparcels from Parcels C and D are uncontaminated. The RI and FS reports for these parcels are not finalized and current remediations support a high degree of contamination. Additionally provide documentation that housing on these added subparcels is free of lead based paint and asbestos containing materials.**

Response: The Navy provided EPA with the requested information regarding added subparcels in the original response to EPA's comment. However, this information, which was required to support the inclusion of Fisher and Spear Avenues within the Parcel A boundary, is no longer relevant based on the recent boundary change to delete these areas, as discussed in the response to EPA comment 1.

The Navy has provided the necessary information and notifications in the Parcel A FOST regarding the presence of lead-based paint and asbestos-containing materials in Parcel A structures. The Navy wishes to clarify that there is no requirement for existing structures on Parcel A to be free of lead-based paint or asbestos-containing materials. The Navy has met all of the disclosure requirements on these compliance issues and, upon property transfer, they will become the responsibility of the transferee.

2. Comment: **3.(a) EPA asks that Navy state it has determined that no hazardous substance, pollutant or contaminant originating on an adjacent parcel has migrated or can migrate onto Parcel A. The Navy has not responded adequately to adjacency issues. The emergency removal action for methane gas is a failure to date. It has failed to decrease methane gas concentrations to below 5% in the UCSF compound and at the border of Parcel A. Methane in air has been shown to be in highest concentration at GMP 1, 2 & 8 in the months of August 2002. The Navy has also failed to address the presence of**

methane gas at ground surface near a light pole on the UCSF compound and along the fence line separating the Parcel E landfill from the UCSF compound.

Response: The Navy has determined that, during the 16 months since these comments were received, all "adjacency issues" affecting the transfer of Parcel A have now been addressed. As discussed in the response to EPA comment 2, the Navy has determined that the "adjacency issues" related to landfill gas are adequately addressed by the available data from the Crisp Avenue GMPs, and by the current performance of the landfill gas control system.

The Navy wishes to clarify that, as discussed in the response to EPA comment 2, the landfill gas control system was still being constructed in August 2002. Following completion of construction activities in October 2002, methane was rapidly removed to a concentration of below 5 percent within the UCSF compound, and the gas control system is effectively controlling off-site gas migration from the Industrial Landfill.

3. **Comment:** **3.(b) The Navy has failed to address the risk of exposure of contaminated groundwater including arsenic found above its PRG of 0.038 mcg/L in 1995 ROD and radionuclides in groundwater at IR01-MW07A at the border of Parcel E with A as documented in the HRA map of contaminated media. Gross alpha activity of greater than 60pci/l is recorded. Additionally petroleum products in groundwater have been documented in the ROD. The Navy consistently fails to address this threat despite the presence of vertical conduits to groundwater access present on Parcel A including wells and piezometers. Additionally, the Parcel A ROD documents the presence of petroleum products in groundwater from a Parking lot spring on parcel A, the pathways were undefined and inadequately addressed.**

Response: As discussed in the Parcel A ROD and in the response to your comments 3, 5, and 7 on the draft FOST, no further action (NFA) is required for groundwater at Parcel A, because no human or ecological receptors will be exposed to the groundwater. The NFA determination was based on several factors: (1) groundwater is not a potential drinking water source defined by RWQCB Resolution No. 89-39, (2) groundwater at Parcel A has never been used as a drinking water source, and (3) groundwater occurs only in localized fractures within the bedrock.

Since no human or ecological receptors will be exposed to the groundwater at Parcel A, the ROD did not consider the limited detections of arsenic at concentrations above EPA preliminary remediation goals to pose a risk to human health or the environment. Although drinking water standards for arsenic have recently been revised, these standards do not apply to Parcel A since the groundwater will not be used as a drinking water source.

Regarding the specific concern of potential radiological groundwater contamination at well IR01MW07A, the Navy wishes to clarify that radionuclide-specific analyses were performed at well IR07MW07A and 7 other nearby wells during the Phase III groundwater data gaps investigation. None of the measured

activities exceeded isotope-specific regulatory levels; however, five samples from four IR-01 wells contained activities of naturally occurring potassium-40 (beta-emitter) greater than 50 picocuries per liter (Tetra Tech 2003a).

In addition, the Navy wishes to clarify that: (1) well IR01MW07A is located in the Parcel E A-aquifer, more than 500 feet from the Parcel A boundary; and (2) groundwater in Parcel A occurs only in the localized fractures in the bedrock. This information indicates that potential non-radiological groundwater contamination in the area will not migrate to Parcel A. Potential groundwater contamination in the area will be further investigated and evaluated as part of the remedial investigation (RI) and feasibility study process for Parcel E.

As discussed in the ROD and the FOST, the State of California agreed that NFA was appropriate for the total petroleum hydrocarbons (TPH) as motor oil detected in groundwater, based on the low concentrations found (less than 600 micrograms per liter) and the RWQCB's concurrence that Parcel A groundwater is not a potential drinking water source. The Navy has determined that the deed notification regarding the low concentrations of TPH in groundwater is sufficient to protect human health.

All Parcel A sampling locations (boreholes, test pits, wells, and piezometers) have been properly addressed. Boreholes and test pits installed as part of the Parcel A investigation were temporary and were immediately backfilled after sampling. Wells and piezometers on Parcel A have been properly decommissioned.

Based on the above information, the Navy has determined that no further action is required to address groundwater issues at Parcel A.

4. **Comment:** **3.(c) The Navy has failed to provide data substantiating the presence or lack thereof of toxic volatile organic compounds in methane gas. The failure of the methane gas removal system must be explained and the Navy must be required to provide the result of laboratory analysis of VOCS in methane gas samples. There has been an increase in reported asthma incidence from five BVHP schools surround HPS and methane gas and VOC's should be suspected of contributing to worsening local air quality.**

   Response: As discussed in the response to EPA comment 2 and your comment 2 above, the Navy has determined that the "adjacency issues" related to landfill gas are adequately addressed by the available data from the Crisp Avenue GMPs, and by the current performance of the landfill gas control system. The available data from the Crisp Avenue GMPs, which includes 6 months of monitoring using field instruments and 2 rounds of laboratory data, demonstrate that methane is not present and that the concentrations of non-methane organic compounds are within acceptable risk-based limits (Tetra Tech 2003b).

5. **Comment:** **8. The EPA questions the designation of subparcels N-18 and N-13 as ECP category 1. This designation must be challenged until the Navy has provided sufficient warranty to protect public health and the environment. The Navy documents that it conducted no soil or groundwater sampling on the added subparcels. This is a matter that is subject to legal challenge and legal**

authority has investigated the prospect of a challenge to the designation of these parcels as uncontaminated property without sufficient supporting investigation, remediation and documentation. The RI and FS reports for Parcels C&D are not final documents.

Response: As discussed in the response to EPA comment 1 and your comment 1 above, the Navy provided EPA the requested information regarding added subparcels in the original response to EPA's comment. However, this information, which was required to support the inclusion of Fisher Avenue within the Parcel A boundary, is no longer relevant based on the recent boundary change discussed in the response to EPA comment 1.

6. **Comment:** **11. The EPA requests formal DHS clearance of 821 and correction of errors in HRA prior to completion of FOST. The Navy states arrogantly that it will not complete the HRA before issuing the FOST in the response. The Navy also fails to report that cesium 137 was found in drains in Building 821 above action level. This finding was interpreted as a laboratory error. DHS has requested additional laboratory data. I am skeptical that this was a lab error because the MARSSIM documents the presence of cesium 137 above action level in numerous buildings on Parcel D in the 300 series as well as the Gun Mole Pier and the former NRDL site on Mahan street. Additionally, the Navy fails to address the FUDS adjacency issue in building 815 where the DPH has requested investigation of two 15,000 gallon tanks used to store radioactive waste water that were found to have concentrations above background when last cleared. Additionally, the Navy has failed to investigate or remediate Buildings 820, 830 and 831. These are former NRDL sites used to house a nuclear particle accelerator and animal kennels used by the NRDL for radiation research.**

Response: The Navy received a letter from DHS on November 15, 2002, indicating that, based on the comprehensive information provided by the Navy and a confirmation survey performed by DHS, there is no residual radioactive contamination present in Building 821. Based on this finding, DHS deemed Building 821 acceptable for unrestricted release. The DHS letter regarding Building 821 is included as Attachment 7 to the draft final FOST, Revision 2.

In January 2003, the Navy agreed to delay submittal of the draft final FOST, Revision 2, in order to resolve radiological and landfill gas issues. Based on the information summarized in the responses to EPA comments 1 and 2, including the submittal of the draft final HRA, the Navy has determined that the available information adequately resolves the radiological and landfill gas issues.

Historic radiological operations at Buildings 815, 820, 830, and 831 are summarized in the draft final HRA. However, Buildings 815, 820, 830, and 831 are neither on Parcel A nor on Navy property and are therefore not part of the property covered in the FOST. These buildings are formerly utilized defense sites (FUDS) administered by the U.S. Army Corps of Engineers (USACE).

7. **Comment:** **13.(a) The EPA asks Navy to fully evaluate the extent of methane gas prior to transfer. The Navy fails to document the extent of methane gas migration and the rate of methane gas generation in its response and the failure of the emergency methane gas removal system to lower methane levels below 5% in accordance with state law. Additionally, the Navy has failed to provide laboratory documentation of VOCs in methane gas samples.**

Response: As discussed in the response to EPA comment 2 and your comments 2 and 4 above, the Navy has determined that the "adjacency issues" related to landfill gas are adequately addressed by the available data from the Crisp Avenue GMPs, and by the current performance of the landfill gas control system. The available data from the Crisp Avenue GMPs, which includes 6 months of monitoring using field instruments and 2 rounds of laboratory data, demonstrate that methane is not present and that the concentrations of non-methane organic compounds are within acceptable risk-based limits (Tetra Tech 2003b).

8. **Comment:** **13.(b) The Navy fails to address the presence of methane gas at ground level in air at the lamp post. The Navy consistently refers to methane gas in subsurface monitors to avoid public/agency scrutiny of the risks and hazards of methane gas at ground level to the north of the landfill.**

Response: The Navy continues to perform gas monitoring at several surface locations, including the light pole. No elevated concentrations of methane or non-methane organic compounds have been detected during these monitoring events. The Navy will continue to monitor subsurface GMPs at numerous locations, including Crisp Avenue, since those monitoring locations are the most effective means of identifying potential gas migration in the subsurface.

9. **Comment:** **Responses to RWQCB: 1. I fully concur that the addition of subparcels from Parcels C and D prior to publication of a FOST for these parcels is a violation of the NEPA warranty for public health requirement under the CERCLA act and I promise that this will be a focus of legal challenge should this property be signed off on by regulators.**

Response: As discussed in the response to EPA comment 1 and your comments 1 and 5 above, the Navy provided EPA the requested information regarding added subparcels in the original response to EPA's comment. However, this information, which was required to support the inclusion of Fisher and Spear Avenues within the Parcel A boundary, is no longer relevant based on the recent boundary change discussed in the response to EPA comment 1.

The Navy does not agree with Dr. Sumchai's regulatory and legal interpretation on this matter, but acknowledges the public's right to question the Navy's decisions, up to and including taking legal action. Fortunately, the recent property boundary change renders this issue moot.

10. **Comment:** **4. The RWQCB requests that all vertical conduits to groundwater be mapped. The Navy has been asked to do this previously by the SFDPH in the Parcel A ROD and has responded that it does not believe this action is**

necessary to impact the FOST. This is a human health and safety issue. The prevention of child and animal access to contaminated groundwater is an ethical issue the Navy must assume responsibility for or face legal challenge to the conveyance effort.

Response: In the responses to the RWQCB's comments on the draft FOST, the Navy agreed to properly decommission all remaining wells and piezometers on Parcel A and to provide a map of their locations in the draft final FOST.

As discussed in the response to your comment 3 above, all Parcel A sampling locations (boreholes, test pits, wells, and piezometers) have been properly addressed. Boreholes and test pits installed as part of the Parcel A investigation were temporary and were immediately backfilled after sampling. Wells and piezometers on Parcel A have been properly decommissioned.

11. Comment: **10. The RWQCB asks for clarification as to whether contaminated wastewater was discharged into the sewer system at HPS. the Navy lies and says "as discussed in the HRA, no tritium contaminated wastewater was discharged to the sanitary sewer system" The HRA historical investigation section, interview section, the RASO report to the RAB in May of 2001 and a SFDPH letter dated 5/16/02 to Ted Lowpensky of Crisp Building, Inc. documents the presence of two concrete 15,000 gallon tanks under the property of building 815 used in the late 50's and 60's to hold low level radioactive waste that was "tested and discharged to the sewer system in accordance with AEC regulations in place at that time".**

Response: The Navy wishes to clarify that the Navy's August 2002 response to the RWQCB's comment on the draft FOST pertained to Building 816, not Building 815. As discussed in the response to your comment 6 above, Building 815 is neither on Parcel A nor on Navy property and is therefore not part of the property covered in the FOST. This building is a FUDS administered by the USACE.

Nonetheless, the Navy acknowledges the discrepancy between the August 2002 response that did not specify Building 816, and the information contained in the HRA regarding Building 815. Please refer to the draft final HRA for information on radiological operations at Building 815.

In particular, please note that the tanks outside of Building 815 were not used to contain "low level radioactive waste," but were used as holding tanks that received the liquid material put down the drains in the laboratories in Building 815. The purpose of the tanks was to hold the liquid material for testing to ensure that it met Atomic Energy Commission license requirements before being released into the city sewage system. Analytical results from 1960 and 1961 (the only years available) showed discharge levels well below maximum permitted concentration values. Liquid radioactive waste generated in Building 815 was collected and put in the liquid radioactive waste holding tank behind Building 364.

12. **Comment:** **Responses to DHS: 1. The DHS asks that discrepancies in the HRA be resolved for issuance in the Draft Final document prior to issuance of the FOST. This is also the request of the HRA. The Navy states its intent to release the FOST on September 24th. The Draft Final HRA is not due until December 2002. The Navy further states in the Response that it does not believe it needs to concur with completion of the HRA prior to issuance of the Parcel A FOST. The Navy also fails to address key adjacency issues including the clearance of Building 815 - a FUDS and the Parcel E landfill contents of radioactive materials as well as the presence of radionuclides in groundwater at the immediate border of Parcel E with A IR01 MW07A.**

Response: In January 2003, the Navy agreed to delay submittal of the draft final FOST, Revision 2, in order to resolve radiological and landfill gas issues. Based on the information summarized in the responses to EPA comments 1 and 2, the Navy has determined that the available information adequately resolves the radiological and landfill gas issues.

Please refer to the responses to your comments 2, 4, 6, and 7 above regarding the Navy's determination that, during the 16 months since these comments were issued, all "adjacency issues" affecting the transfer of Parcel A have now been adequately addressed. Please refer to the responses to your comments 6 and 11 above regarding the disposition of Building 815.

13. **Comment:** **Response to MOED: 2. MOED asks if HRA documents that NRDL sites on Parcel A are safe. Navy states that Building 821 is safe for unrestricted release. The Cesium 137 in drains is attributed to laboratory error even though a pattern of cs137 in buildings on HPS is evident in the MARSSIM survey above natural or fallout levels. Additionally, the Navy fails to address the fact that On Thursday August 9, 2002 Sacramento County Superior Court Judge Gail D. Ohanesian rebuffed efforts by the administration of Governor Gray Davis to allow waste from decommissioned nuclear facilities to be shipped to ordinary landfills. The ruling requires the state to forsake a recently adopted federal radiation standard 10 times more permissive than one governing waste slated for disposal in an urban landfill. Ohanesian's order requires the state to submit all recent or pending decommissioning actions for review by the judge. The decision leaves the state of California and the DHS in a bind over how to define a clean former nuclear site and what is certain is that the state Department of Health Services cannot formally adopt the federal government's standard without public hearings or an environmental study that weighs other alternatives. The decision will impact the ability of DHS to clear sites on HPS and may delay clearance for the FOST.**

Response: The Navy received a letter from DHS on November 15, 2002, indicating that, based on the comprehensive information provided by the Navy and a confirmation survey performed by DHS, there is no residual radioactive contamination present in Building 821. Based on this finding, DHS deemed Building 821 acceptable for unrestricted release. The DHS letter regarding Building 821 is included as Attachment 7 to the draft final FOST, Revision 2.

14. **Comment:** **2.(b) The Navy fails to address to the MOED, as to other regulators, adjacency issues arising from the Parcel E landfill.**

Response: As discussed in the response to EPA comment 2 and your comments 2, 4, and 7 above, the Navy has determined that the "adjacency issues" related to landfill gas are adequately addressed by the available data from the Crisp Avenue GMPs, and by the current performance of the landfill gas control system.

15. **Comment:** **2.(c) The Navy fails again to address the adjacency issue of radionuclides in groundwater at the border of Parcel E with A as documented in the HRA contaminated media map.**

Response: Please refer to the responses to your comment 3 above.

16. **Comment:** **2.(d) The Navy claims that cesium 137 found in drains in Building 821 or parcel A was a laboratory error. However the MARSSIM survey documents the presence of Cs137 above action levels. in Building 313 IR35 or Parcel D, Building 313A, Building 322 on Parcel D, Building 364 on Parcel D, The Gun Mole Pier, Berth 15 or Parcel D, the Former NRDL site on Mahan street on Parcel D and the crawl space at Building 351 A on Parcel all samples in drain lines were above action level for cesium 137.**

Response: Please refer to the responses to your comments 6 and 13 above.

17. **Comment:** **Response to Public comments: 10. In response to questions presented by myself the Navy states that the Navy verified that no soil or groundwater contamination was present in the added subparcels based on investigations to date at Parcels D and C. This contradicts the earlier response to EPA question 3 in which the Navy states that, "...Parcels C and D remedial investigation and feasibility study reports were reviewed to ensure that the portions of the subparcels within the Parcel A boundary do not contain any suspected source areas and as a result, no soil or groundwater sampling was conducted in this area...**

Response: As discussed in the response to EPA comment 1 and your comments 1, 5, and 9 above, the information previously required to support the inclusion of Fisher and Spear Avenues within the Parcel A boundary is no longer relevant based on the recent boundary change discussed in the response to EPA comment 1.

The Navy wishes to clarify the response to your comment 10 on the draft FOST. The assertion that no soil or groundwater contamination exists along Fisher or Spear Avenues is consistent with the findings of the RI reports for Parcels C and D. The investigation process begins with an assessment of historic operations and potential contaminant sources in order to assess the likelihood of soil or groundwater contamination. Soil and groundwater samples are collected if warranted based on the source evaluation, but are not an absolute requirement in all areas. The Navy's decision to revise the Parcel A boundary to exclude Fisher and Spear Avenues was based on new information, discovered during research for the draft final HRA.

REFERENCES

California Department of Health Services (DHS) Environmental Management Branch. 2002. Letter Regarding "Release of Building 821, Parcel A at Hunters Point Shipyard (HPS)." November 15.

Tetra Tech EM, Inc. (Tetra Tech). 2003a. "Final Parcel E Groundwater Summary Report, Phase III Groundwater Data Gaps Investigation, HPS, San Francisco, California." October 17.

Tetra Tech. 2003b. "Final Landfill Gas Characterization Report, Parcel E Non-Standard Data Gaps Investigation, HPS, San Francisco, California." December 23.

ATTACHMENT 5
RESPONSES TO AGENCY COMMENTS ON THE FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A, REVISION 2,
DATED MARCH 2004

CONTENTS

ACRONYMS AND ABBREVIATIONS

§	Section
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
ABM	Abrasive blast material
CAD	Computer-aided drawing
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CLP	Contract Laboratory Procedure
DoD	U.S. Department of Defense
DTSC	California Department of Toxic Substances Control
EBS	Environmental baseline survey
ECD	Electron capture detector
EPA	U.S. Environmental Protection Agency
FFA	Federal Facilities Agreement
FOST	Finding of suitability to transfer
FR	*Federal Register*
GC/MS	Gas chromatography/mass spectrometry
GMP	Gas monitoring probe
HHRA	Human health risk assessment
HLA	Harding Lawson Associates
HPAL	Hunters Point ambient level
HPS	Hunters Point Shipyard
IR	Installation Restoration
JAI	Jerrold Avenue Investigation
LBP	Lead-based paint
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MCPA	4-chloro-2-methylphenoxy acetic acid
MCPP	2-(2-methyl-4-chlorophenoxy)-propionic acid
Navy	U.S. Department of the Navy
NCP	National Oil and Hazardous Substances Pollution Contingency Plan

PCB	Polychlorinated biphenyl
PRG	Preliminary remediation goal
RI	Remedial investigation
ROD	Record of decision
RWQCB	California Regional Water Quality Control Board
SIM	Selective ion monitoring
SVOC	Semivolatile organic compound
TCLP	Toxicity characteristic leaching procedure
TPH	Total petroleum hydrocarbons
USC	*United States Code*
VOC	Volatile organic compound

RESPONSES TO REGULATORY AGENCY COMMENTS ON THE DRAFT FINAL FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A (REVISION 2), HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

This document presents the U.S. Department of the Navy's (Navy) responses to comments from staff at the U.S. Environmental Protection Agency (EPA); the California Department of Toxic Substances Control (DTSC); the California Regional Water Quality Control Board (RWQCB); the City and County of San Francisco Department of Health, Hazardous Waste Unit (City); Dr. Ahimsa Porter Sumchai (member of the public); and Arc Ecology on the "Draft Final Finding of Suitability to Transfer [FOST] for Parcel A (Revision 2), Hunters Point Shipyard [HPS], San Francisco, California," dated March 19, 2004. The comments addressed below were received from EPA, DTSC, and Arc Ecology on May 24, 2004, and from the City, Dr. Sumchai, and RWQCB on May 25, 2004.

RESPONSES TO EPA COMMENTS

1. Comment: **<u>Section 6</u>: This text should be modified to replace the references to "hazardous materials" and "waste" with consistent references to "hazardous substances". The Notice provisions of 120(h)(3) are triggered by storage of hazardous substances regardless of whether the material belonged to the Navy or to its tenant. It is not clear from the information in Tables 6 and 7 how the Navy can assert that there were no hazardous substances stored on the parcel in excess of their reportable quantity. More importantly, Section 6 ignores the obligation to provide notice in the deed of response actions taken on the parcel. The information in the table describing the materials excavated is adequate, but the notice must be included in the deed.**

Response: The text in Section 6.0 and Tables 7 and 8 have been revised to replace references to "hazardous materials" and "hazardous waste" with the term "hazardous substances."

While there is no definitive record of a release of a hazardous substance by the Navy or its tenants, the removal of sandblast grit and pesticides will constitute a hazardous substance notification.

Finally, EPA has not promulgated a trigger for reporting disposal of hazardous substances.

The Navy has conducted a complete search of its files and has not found any evidence that hazardous substances were stored in excess of 1,000 kilograms or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-reportable quantity. Similarly, the Navy has found no evidence that any hazardous substance was released in excess of its CERCLA-reportable quantity. No definition exists for a "complete search" of the agency's files. The *Federal Register* (FR)

concedes that EPA would have difficulty providing an effective yet reasonable framework in the regulation for a "complete search" (55 FR 14208). In the FR, EPA states its anticipation that federal agencies will exert a reasonable and good-faith effort to identify potential contamination by hazardous substances on federally owned property. The Navy has exerted a reasonable and good-faith effort in compliance with CERCLA Section (§) 120(h) and Title 40 of the *Code of Federal Regulations* (40 CFR) Parts 373.1-373.3.

Finally, notice in the deed is required only if the triggers described in this response for storage or disposal are met. Section 7.0 of the FOST explains that the deed will contain the covenant required by §120(h)(3) of CERCLA, which warrants that all remedial action necessary to protect human health and the environment has been taken.

2. Comment: **Section 7: In accordance with the FFA, the access provision should include EPA and State access as well as the Navy.**

Response: Federal Facility Agreement (FFA) provisions do not govern the access requirements set forth in CERCLA.

The access provision described in Section 7.0 of the FOST is a direct citation from Title 42 of the *United States Code* (42 USC) §9620(h)(3) and is standard language used in Navy FOSTs and deeds. The Navy will caveat the 120(h)(3)(A)(iii) access term "the United States" by "including all federal agencies and specifically the EPA." State regulatory agencies if they so desire, may apply to enter into a Land Use Covenant with the Navy pursuant to state law. This comment is currently unresolved. If the comment remains unresolved at the time the FOST is signed, it will be appended to the FOST.

3. Comment: **Building 322: As of this writing, EPA has not seen the results of the recent radiological survey conducted by the Navy for Building 322 or the associated footprint. However, EPA is assuming that once such information is available we will be able to conclude that Parcel A is safe for transfer.**

Response: Final results of the radiological survey at Building 322, including the California Department of Health Services' evaluation for release for unrestricted use of the former building site, have been incorporated into the revised Draft Final FOST (Revision 3).

4. Comment: **<u>Section 5.2.1, Polychlorinated Biphenyls, Page 19</u>: This section discusses the possibility of polychlorinated biphenyl (PCB) contamination in relation to transformers, oil circuit breakers, and electrical equipment but does not include a discussion of the potential for PCB-containing light ballasts within Parcel A. The construction dates for the residential buildings predate 1979 and light ballasts in facilities constructed prior to 1979 could contain PCB oils, unless the facility has undergone light retrofitting. In the next version of this document please include a discussion of the light ballasts, and if a systematic light retrofitting program has not been completed, include notification that PCB-containing light ballasts may exist.**

Response: A new sentence has been added to the end of the second paragraph of Section 5.2.1 that states, "Construction of the residential buildings predates 1979. Light ballasts in facilities constructed prior to 1979 could contain PCB [polychlorinated biphenyl] oils, unless the facility has undergone retrofitting. The Navy has no record that a light retrofitting program was conducted within Parcel A; therefore, light ballasts that contain PCBs may remain in the buildings in Parcel A."

5. Comment: **<u>Section 5.2 and Table 6</u>: Soil excavated from sites SI-19 and IR-59 JAI was identified in the Parcel A Remedial Investigation (PRC 1995a) as including sandblast grit. One brand of grit that was used at the Shipyard is manufactured from coal slag which sometimes contains low levels of naturally occurring radionuclides. It is possible for the grit production process to concentrate the radioactivity resulting in sandblast grit with elevated radiation levels. However, Navy testing has shown the radiation levels associated with this grit on the Shipyard to be within health protective levels. Pursuant to FOST guidance and for the sake of completeness, the Parcel A FOST should list all CERCLA hazardous substances that have been found within the parcel, and should include radionuclides. Please revise Section 5.2 and Table 6 accordingly.**

Response: Radionuclides that were found at Parcel A have been referenced in the revised FOST, with an explanation that they represent background concentrations and not a contaminant release.

Abrasive blast material (ABM) excavated from Installation Restoration (IR) Site 59 Jerrold Avenue Investigation (JAI) was not analyzed for radioactivity. The sample was analyzed for contract laboratory program (CLP) semivolatile organic compounds (SVOC), CLP pesticides and PCBs, total petroleum hydrocarbons (TPH) as diesel fuel and as motor oil, and metals. However, the laboratory results to characterize the waste for

disposal are no longer available after 10 years. A new paragraph has been added before the last paragraph of Section 5.1.1 as follows:

"The black ABM excavated from IR-59 JAI was not analyzed for radioactivity, but was analyzed for contract laboratory program (CLP) semivolatile organic compounds (SVOCs), CLP pesticides and PCBs, total petroleum hydrocarbons (TPH) as diesel fuel and as motor oil, and metals.

The ABM was excavated until confirmation samples collected from the excavation area contained minimal concentrations of any chemicals of concern. A composited sample of black sand blast grit collected from Parcel B was analyzed for evidence of naturally occurring radioactivity such as might be present in some ABM. The sample was also analyzed for evidence of radioactivity that might be residual from cleanup of Operations Crossroads ships. The Navy confirmed (RASO letter 6470, Serial 02E/991539/0707 of 20 October 1999) absence of radiological hazard associated with the ABM."

In addition, a new row has been added to Table 6 as follows:

Site Description	SI Designation	Constituents Detected During Site Investigations	Risk Assessment Results
Jerrold Avenue Investigation	IR-59JAI	Pesticides SVOCs Petroleum Hydrocarbons Metals	Soils containing sandblast grit encountered during the investigation by excavation were replaced with clean soil. Replacement soil does not pose a threat to human health or the environment.

RESPONSES TO DTSC COMMENTS

1. Comment: **<u>Section 2.0 Property Description, page 6, first paragraph</u>: Moving sections of Parcel A into Parcels B, C, D and E raises some questions as to what processes will govern the future decisions for these properties. These properties have already gone through the CERCLA process and have been delisted from Superfund. However, it is DTSC's understanding that by placing these properties in Parcels B, C, D, and E these properties are no longer available for transfer and will require the completion of the CERCLA process for these parcels. Also, please explain what legal process will formalize the movement of properties from Parcel A to Parcels B, C, D, and E.**

Response: The boundary of Parcel A has been altered in a series of FOST revisions to exclude areas with potential contamination and to minimize delays in the transfer of Parcel A. Those areas excluded are now incorporated in Parcels B, C, D, and E. They will undergo different processes to achieve regulatory closure, depending on the status of the receiving parcels. In

addition to letters written to the regulatory agencies from the Base Realignment and Closure Environmental Coordinator that documents changes in parcel boundaries, areas moved from Parcel A to Parcel B in 2002, draft FOST, Revision 2, will be formalized within the boundary of Parcel B in an amended ROD. Areas moved from Parcel A to Parcels C, D, and E in 1998 and 2004, draft FOST, Revisions 00 and 01, will be formalized within the boundaries of each parcel in future CERCLA documents.

2. Comment: **<u>Section 2.0 Property Description</u>: The level of detail provided on the Parcel A maps and the numerous errors on Figure 3 (see comment 4 below) requires DTSC to again request that the FOST include a legal description with plats, of the Parcel A boundary.**

Response: Figures have been amended to display all appropriate features, as is further discussed in the responses to DTSC comments below. Navy policy is to use a map in FOST documents to describe the boundary of the parcel and to incorporate legal descriptions of the boundary in the deed after the FOST is issued.

3. Comment: **<u>Section 2.0 Property Description</u>: The text states that, "Currently, 64 buildings are present on Parcel A…" However, 70 buildings are shown on Figure 2. Also, the number of buildings on FOST Figure 2 does not agree with the number of buildings shown on ROD Figure 3: for example, three additional buildings in Parcel A West are shown on ROD Figure 3 and Building 818 is not shown. Please clarify the number of buildings that are included in this FOST (and which are on Parcel A).**

Response: Based on map reviews and site observations, Figure 2 has been revised to show total of 72 existing buildings in Parcel A. Figure 3 of the ROD shows small structures north of Building 817 and west of Building 816 in Parcel A West, which are not shown on Figure 2 of the FOST. Based on interpretation of recent aerial photographs, Figure 2 of the FOST has been revised to show buildings in Parcel A West, including 816, 817, and 818. In addition, the number of buildings in the text in Section 2.0 has been revised to refer to a total of 72 buildings located within Parcel A, including the water tank.

4. Comment: **<u>Figure 3, HPS Subparcel Units and IR Sites</u>: Please clean up the map shown in Figure 3. There are many discrepancies between FOST figures 2 and 3 and between the Parcel A ROD and FOST figures with respect to the Parcel A boundary. For example, the yellow area that shows the extent of Parcel A spills onto non-Navy property and may cause confusion as to the extent of Parcel A. Also, Figure 3 shows a portion of IR-18 as present in Subparcel N3A.**

Response: The "yellow area" that spills "onto non-Navy property" is actually included in Parcel A and correctly represents Parcel A. The boundary of Parcel A that contains the subject areas is contiguous with property that is not owned by the Navy, as is shown on Figure 3. This portion of the boundary of Parcel A was delineated directly from legal descriptions and is correct. The boundaries of the environmental baseline survey (EBS) subparcels were established during the original EBS at HPS based on computer-aided design (CAD) drawings of the base that were available when the EBS was prepared. These boundaries were slightly inaccurate. These inaccuracies resulted in the minor differences between the extent of the EBS subparcels and the footprint of Parcel A, as noted by the DTSC comment. Accordingly, the boundaries for EBS subparcels N1A, S46A, and H48A—shown on Figure 3 of the FOST—have been revised to be contiguous with the Parcel A boundary. In addition, the following text has been added at the end of Section 2.0, page 6:

"In addition, boundaries of EBS subparcels N1A, S46A, and H48A have been revised, as shown in Figure 3, to eliminate the minor discrepancies between the boundaries of the subparcels in the EBS and the boundary of Parcel A. Small areas of Parcel A have been shown outside of EBS subparcel boundaries because those boundaries were established during the original EBS based on computer-aided design drawings of the base. Conversely, the boundary for Parcel A was delineated directly from legal descriptions. Since Parcel A accurately represents the actual extent of Navy owned property, the boundaries of the subparcels in the EBS were revised to be contiguous with the Parcel A boundary."

In addition, the southeast boundary of IR-18 has been revised to be contiguous with the boundaries of N3A and N3B.

5. Comment: **<u>Section 5.0 Environmental Baseline Survey Findings</u>: The creation of the sub-subparcel causes confusion. Some of the subparcels as currently defined include portions of two or more parcels. In some cases this leads to an overall Parcel Category (see Table 4) that precludes transfer of that property, while the subparcel is available for transfer. For example subparcel N-17 also includes property on Parcels B and C. The overall ECP classification for the subparcel is 7 (i.e., not available for transfer); however, the sub-subparcel N-17-A has an ECP classification of 2. In order to reduce confusion and simplify the process, DTSC recommends that the Navy limit Environmental Condition of Property categorization to smallest subparcel unit. We understand the need to track the evolution of the parcels and believe Table 4 can be modified to explain the subparcel history in a much clearer manner.**

Response: The Navy concurs with the DTSC recommendation. EBS subparcels outside of Parcel A are no longer discussed in Table 4 of the revised FOST. Moreover, the discussion of overall parcel classifications was also deleted.

6. Comment: **<u>Section 5.1.3, Radioactive Contaminants</u>: Since the release of the draft, final FOST Building 322 has been identified as a radiologically impacted building. The draft final Historical Radiological Assessment (February 2004) identified Building 322 as impacted, demolished and previously located on Parcel D. DTSC will not be able to concur on the Parcel A FOST until all radiological issues with this building have been addressed and until the California Department of Health Services releases the building or its location for unrestricted use.**

Response: Final results of the radiological survey at Building 322, including the California Department of Health Services' evaluation for release for unrestricted use of the former building site, have been incorporated into the revised Draft Final FOST (Revision 3).

7. Comment: **<u>Section 5.1.3.2 Building 821</u>: Please include a statement regarding the results of swipe samples collected from 16 locations throughout Building 821.**

Response: The following sentence has been added after the second paragraph, fourth sentence, in Section 5.1.3.2: "The swipe surveys by NWT beginning in 2002 included alpha and beta analysis of dry wipes collected from various areas in Building 821."

8. Comment: **<u>Section 5.1.5, Off-Parcel Issues</u>: Please include a discussion of IR-74 the Formally Used Defense Site adjacent to Parcel A. The discussion should at least address the following issues. The site has not been investigated and the occurrence of soil or groundwater contamination is unknown. A former gas station was located at IR-74. Soil gas monitoring near IR-74 has detected low levels VOC in gas monitoring probes and trichloroethylene (TCE) at 3 µg/L and 2 µg/L has been detected in groundwater in monitoring well IR74MW01A on Crisp Avenue near Building 821. This level of TCE in groundwater may present an inhalation risk inside a structure; however, a risk assessment has not been completed. The source of the VOCs in soil and groundwater has not been identified.**

Response: A new paragraph has been added at the end of Section 5.1.5, as follows: "IR-74 is a formerly used defense site adjacent to Parcel A. A former gas station was located at IR-74. In 2002, soil gas monitoring probes were installed south of IR-74 near the UCSF compound in association with the landfill gas investigations. Samples from these probes contained low levels of VOCs. In addition, trichloroethene has been detected in groundwater at 3 µg/L [micrograms per liter] and 2 µg/L in monitoring well IR74MW01A on Crisp Avenue near Building 821. During the Parcel E RI conducted in 1996, an HHRA was conducted under the current industrial, future residential, and future industrial land-use scenarios at IR-56. Risks from VOCs originating in A-aquifer groundwater were determined insignificant under all of the scenarios. VOCs were not detected in soil gas samples that were collected along the southern boundary of IR-74. Also, groundwater flows toward the southeast, away from Parcel A. Therefore, VOCs found around IR-74 are not expected to pose unacceptable risks in Parcel A."

9. Comment: **Section 5.1.5, Off-Parcel Issues: Please discuss the soil excavation at IR-18. In some cases excavations at IR-18 ended at the parcel boundary. Further, remediation at other IR-18 excavations near the Parcel A boundary was halted prior to the full removal of contamination and therefore the extent of contamination has not been determined. Because of this, DTSC request that Figure 3 show the locations of IR-18 excavations.**

Response: The excavation in IR-18 is discussed in Section 2.0, Property Description. Full characterization and removal were completed in this area. No excavations at IR-18 were halted at the boundary between Parcels A and B. Excavations were not extended into non-Navy property northwest of Parcel B. Figure 3 has been revised to show locations of excavations at IR-18.

10. Comment: **Section 5.1.5, Off-Parcel Issues: Please show the location of IR-52 and SI-77 (adjacent to Building 813) on Figure 3.**

Response: IR-52 and SI-77 have been added to Figure 3.

11. Comment: **Section 5.1.5, Off-Parcel Issues: Please add to the discussion of VOC soil gas that annual laboratory analysis of VOC soil gas will be included in future monitoring along Crisp Avenue.**

Response: Section 5.1.5 has been revised to add a new sentence to the end of the next-to-last paragraph that states, "VOCs in soil gas for samples from the a Crisp Avenue GMP [gas monitoring probe] will be analyzed annually pursuant to the final monitoring and control plan."

12. **Comment:** **Section 5.2.1. Polychlorinated Biphenyls: Please ensure that the figure E1, Utilities Technical Study, Phase 2 Oil Containing Electrical Equipment Location Plan 1 from the October 19, 1990 report entitled, "Preliminary Assessment Other Areas/Utilities Naval Station, Treasure Island Annex, Volume II: Appendices" has been reviewed in preparation of this FOST. Some transformers on that figure (E1) do not appear on figure 4 of the FOST. Some examples include: an oil transformer at Building 101, two pole mounted transformers on Donahue Street and another pole mounted transformer at the south west end of Fredell Street.**

Response: Several sources have been reviewed to identify transformer sites in Parcel A. They include the basewide EBS (Tetra Tech EM Inc. [Tetra Tech] 1998), the Parcel A site inspection (SI) report (PRC Environmental Management, Inc. [PRC] 1993), and Figure E1, Utilities Technical Study, Phase 2 Oil Containing Electrical Equipment Location Plan 1, from the October 19, 1990, report, "Preliminary Assessment Other Areas/Utilities Naval Station, Treasure Island Annex, Volume II: Appendices" (Harding Lawson Associates [HLA] 1990). Test results for the oil-containing electrical equipment appear in Tables 4-1 and 4-2 of Appendix D in the preliminary assessment report (HLA 1990). Two pad-mounted transformers east of Building 100, labeled as V4 and V5, are non-PCB-containing equipment. One pole-mounted transformer on Donahue Street, labeled P400, is non-PCB equipment. Another pole-mounted transformer is located outside of Parcel A. Test results for two oil switches and two oil fuse cutouts located at Building 101—labeled GH116, GH119, GH117, and GH118—are all non-PCB bearing. Thus, the FOST should not present these items as transformer sites. Locations of other oil-containing electric equipment are consistently shown in Figure E1 of the preliminary assessment report and Figure 4 of the FOST.

13. **Comment:** **Section 5.2.3. Petroleum-Related Compounds: Please reference Figure 5 and the monitoring well(s) that petroleum was detected at 600 µg/L and 130 µg/L.**

Response: Figure 5 has been revised to clarify a detection of petroleum at 600 µg/L in a sample from well IR59MW06F and at 130 µg/L in a sample from well IR59MW01F. In addition, the first paragraph of Section 5.2.3, Petroleum-Related Compounds, has been revised as follows:

"During the RI [remedial investigation] for IR-59 — the groundwater underlying Parcel A — TPH extractable as motor oil was detected in groundwater at concentrations of 600 µg/L or less (PRC 1995a) (Figure 5). Seven monitoring wells (and five other grab sampling locations) were sampled in Parcel A for analysis of motor oil. Twenty-three samples were collected in groundwater, all in IR-59, except for several near Parcel B. Most of the samples were collected in 1994; the earliest was in September 1993 and the latest was in March 1995. Roughly three quarters of the samples evidenced no detectable concentrations of motor oil. The highest concentration of TPH extractable as motor oil detected was 66,000 µg/L in a grab groundwater sample from a boring. However, this concentration was detected before the well was installed and fully developed and is not considered representative of the actual level of TPH in groundwater. Once the boring was completed and developed as a monitoring well, motor oil was detected once, at a concentration of 130 µg/L."

14. Comment: **<u>Section 5.2.3. Petroleum-Related Compounds, second paragraph</u>: Please specify the State entity that agreed that no further investigation, remediation, or monitoring of the groundwater at Parcel A is required for petroleum related compounds.**

Response: The text of Section 5.2.3, Petroleum-Related Compounds, second paragraph, second sentence from the last, has been revised as follows:

"The EPA and the California Environmental Protection Agency concurred with the conclusion that no further action is required for groundwater at Parcel A."

15. Comment: **<u>Section 5.3.2, Lead-Based Paint</u>: As with all other military base transfers, the Navy cites Title X as legal authority it adheres to for investigation lead based paint issues. However, DTSC does not agree with that policy. It is DTSC's position that releases of lead to the soil is a CERCLA release and that CERCLA section 120 requires that the Navy, in this case, covenant that all remedial action necessary to protect human health and the environment has been taken.**

Response: The Navy understands DTSC's position; however, the Department of Defense (DoD) and the Navy have concluded that, with respect to properties containing target housing, the Residential Lead-Based Paint Hazard Reduction Act, Title X, that amends the Lead-Based Paint Poisoning Prevention Act and the Toxic Substances Control Act (42 USC 2681) are sufficiently protective to address hazards posed by lead-based paint (LBP). Although not a CERCLA response action, the restriction contained within the referenced section forms the basis, in part, for the

Navy's finding that the property is suitable for transfer with respect to LBP issues. The Navy's use of Title X in lieu of CERCLA is consistent with DoD policy and with numerous similar transfers throughout the United States. This comment is currently unresolved. If the comment remains unresolved at the time the FOST is signed, it will be appended to the final FOST as an unresolved comment.

16. Comment: **<u>Section 5.3.2, Lead-Based Paint</u>: The Deed Restriction requires that the grantee shall conduct lead soil sampling and remediation after demolition and removal of demolition debris and prior to occupation of any newly constructed dwellings. Structures that are not dwellings, such as the water tank, should be included in the definition of structure. Also, DTSC recommends that the deed restriction apply to previously demolished structures.**

Response: The wording of this deed restriction contains standard language used by the Navy in FOSTs and is sufficient to protect the public; therefore, the deed restriction has not been changed. The deed restriction applies to the entire parcel and therefore to areas where buildings have been demolished or where water tanks were present. The restriction requires action in any case where dwelling units would be constructed in the future.

17. Comment: **<u>Section 6.0, Notice of Hazardous Substances</u>: The Navy makes the statement that CERCLA reportable quantities have not been exceeded on Parcel A. However, the text also states that no information on the quantities or length of time hazardous substances was stored on Parcel A is available. In the absence of specific information on quantities of hazardous materials, DTSC request that a hazardous notification be included in the FOST.**

Response: Notification has been included in the revised FOST.

18. Comment: **<u>Section 7.0 Additional Deed Contents, Covenant</u>: As per the statute cited, the phrase "Real Estate" should be changed to "real property."**

Response: The phrase "Real Estate" was changed to "real property."

19. Comment: **<u>Figure 2</u>: Please include/label the following buildings (some of which are listed on Table 1): Building 158, R-66A garage, R-105, T garage, small unnumbered building adjacent to R-107, small unnumbered buildings adjacent to D and E, unnumbered building in H53, two small unnumbered buildings west of Building 821, and one small unnumbered building west of Building 901.**

Response: Figure 2 has been revised to include labels for Buildings 158, R-66A garage (labeled as 918), R-105, and T garage (labeled as unnumbered). In addition, the following buildings were labeled as unnumbered: small buildings adjacent to R-107, D, E, 821, 901, and 905.

20. Comment: **Figure 4: Please include the date of the aerial photograph.**

Response: The date of the photograph (2000) has been included on Figure 4 of the revised FOST.

21. Comment: **Table 1: Please include the following structures (which are shown on Figure 2):**

a. Buildings 904, 906, 909, 917, R-106, small unnumbered building adjacent to R-107, small unnumbered buildings adjacent to D and E, two small unnumbered buildings west of Building 821, and one small unnumbered building west of Building 901.

b. Demolished buildings should be indicated on tables and identified as such (e.g., by "(d)" as in Table 2).

c. The subparcel designation for Buildings F, 102 and 901 should be HOS-A to be consistent with Figure 3.

Response: a. Table 1 has been revised to add the following rows. Figure 2 has been revised to change the label from "R-106" to "R-105" and to add a label for a building west of Building 821 as "158."

Building No.	Subparcel	Past Navy Use	Current Navy Use	Current Tenant
904 (d)	H53	Green House – Glass	N/A	N/A
906 (d)	H53	Gardening tool house	N/A	N/A
909	H54	Garages – 2 cars	None	None
917 (d)	N1A	Grocery Store	N/A	N/A
Unnumbered	H49	Unknown	None	None
Unnumbered	HOS-A	Unknown	None	None
Unnumbered	HOS-A	Unknown	None	None
Unnumbered	H50	Unknown	None	None
Unnumbered	S46A	Unknown	None	None

b. Demolished buildings have been marked with (d), as shown in the table above, and a note has been added to Table 1 as follows:

"(d) Building demolished"

c. The subparcel designation for Building F has been changed to HOS-A.

22. Comment: **Table 2:**

a. Include transformer sites in S46A, H49, H53, H57 and electrical substations.

b. H-49. Include R-106 and the building (Figure 2) adjacent to R-107. Also: R-105 is not shown/labeled on Figure 2.

c. H-50. Include small building adjacent to E.

d. H-51. Building 158 is not shown on Figure 2.

e. H-53. Unnumbered residence not shown on Figure 2.

f. H-54. R-66A and T garages are not labeled on Figure 2.

g. HOS-A. The subparcel designation for Buildings F, 102 and 901 should be HOS-A (not H-OS) to be consistent with Figure 3.

h. N-1. The subparcel designation for Buildings 19, 917 and 100 should be N1A (not N-1) to be consistent with Figure 3.

i. N-3. The subparcel designation for Building 916 should be N3A (not N-3) to be consistent with Figure 3.

j. N-17. The subparcel designation for Buildings 101 and 110 should be N17A (not N-3) to be consistent with Figure 3.

k. S-46. The subparcel designation for Buildings S-807, 808, 821 and two unnumbered buildings west of Building 821 should be S46A (not S-46) to be consistent with Figure 3.

Response:

a. A new column, Transformer Sites, has been added to Table 2 to identify subparcels with transformer sites, as shown in the table below.

b. Figure 2 has been revised to change the label from "R-106" to "R-105."

c. The designation "unnumbered building" has been added for H50.

d. Figure 2 has been revised to show Building 158.

e. Table 2 has been revised to show the following buildings in H53: 904(d), 905(d), 906(d), 907, 919, A-2, B, N, O, R-94, R-95, water tank, and unnumbered storage cage. Figure 2 has been revised to show the unnumbered storage cage.

f. Figure 2 has been revised to show a label for the T garage as "unnumbered" and a label for the R-66A garage as "918". Table 2 has been revised to reflect these changes in H54.

g. The subparcel designation for Buildings F, 102, and 901 has been changed to HOS-A.

h. The subparcel designation for Buildings 19, 917, and 100 has been changed to N1A.

i. The subparcel designation for Building 916 has been changed to N3A.

j. The subparcel designation for Buildings 101 and 110 has been changed to N17A.

k. The subparcel designation for Buildings S-807, 808, 821, and unnumbered buildings has been changed to S46A.

Subparcel	Building Numbers and Other Structures	IR/SI Sites	USTs	Transformer Sites
H48A	816, 817, and 818	SI-41	None	No
H49	L, M, R-100, R-105, R-107, and unnumbered building	None	None	Yes
H50	C, E, R-118, and unnumbered building	None	None	No
H51	158, former 322, and 915	None	None	No
H52	A, A-1, R, and S	None	None	No
H53	904(d), 905(d), 906(d), 907, 919, A-2, B, N, O, R-94, R-95, water tank, and unnumbered storage cage	IR-59 JAI, SI-43	None	Yes
H54	909, 918, G, J, K, R-14, R-33, R-36, R-36A, R-39, R-45, R-66A, R-76, R-77, R-78, R-97, T, U, V, W, X, Y, Z, and unnumbered garage	None	None	No
H55	908, D, H, I, and R-26	None	None	No
H56	None	None	None	No
H57	921	None	None	Yes
HOS-A	102, 901, and F	SI-19	None	No
N1A	19, 917(d), and 100	None	None	No
N3A	916	None	None	No
N17A	101 and 110	None	None	No
S46A	S-807, 808, 821, and two unnumbered buildings	None	None	Yes

23. Comment: **<u>Table 4</u>: DTSC recommends that this table discuss the ECP classification for subparcels in Parcel A only (see comment 5 above). Subparcels on Parcel B could be addressed within the discussion of off-parcel issues. The Navy may want to include related (not in Parcel A) subparcels (e.g. N-17 –B and N-17-C for N-17 A) and their ECP classification in a separate column on Table 4.**

Response: The discussion of overall parcel classifications was deleted. Please see the response to DTSC comment 5.

24. Comment: **<u>Table 7</u>:**

a. Please clarify whether all buildings (including 43 demolished buildings) were considered: Building 906 is the only demolished building considered.

b. Sources of information are identified for only 2 buildings. Please include sources of information for all buildings.

c. Please add the year to the date of the source documents.

d. For Building 322, please add the appropriate radiological materials.

e. For Building 808, please include small caliber munitions as "Hazardous Materials Stored".

f. Please add Electrical Substation F. Include PCBs as "Hazardous Materials Stored".

Response:

a. During the Parcel A RI, foundations and other remnants of about 43 demolished structures were identified (PRC 1993). During the basewide EBS, all available data regarding the Navy's historical hazardous waste storage, generating, and disposal activities were considered and presented in Table 3-2A of the basewide EBS report (Tetra Tech 1998). Of the 12 buildings listed in Table 3-2A of the basewide EBS report, Building 906 was the only demolished building where hazardous wastes were generated in Parcel A. Table 7 has been revised to identify Building 906 as a demolished building by marking it with "(d)." In addition, a note has been added to Table 7 as follows: "(d) Building demolished."

b. As a note to Table 7, the EBS is referenced as a source.

c. The source reference has been revised to include the year 1998.

d. The possibility of radiological material storage in Building 322 has been added to Section 5.1.3.3.

e. "Small-caliber munitions" has been added for Building 808 as hazardous materials stored.

f. A new row has been added to Table 7 as follows:

Building	Past Navy Use	Hazardous Materials Stored
Electrical Substation F	Electrical Substation	PCBs

25. Comment: **<u>Attachment 3</u>: On page 8, the page title is "Responses to RWQCB" but the comments are from the City. Have RWQCB comments been left out? Also, please include comments from DTSC after the US EPA's comments in this attachment.**

Response: This attachment has been replaced with a corrected document that properly labels the City comments and includes RWQCB comments and Navy responses.

26. Comment: **<u>Attachment 4 and 5</u>: Attachment 4 "Proposed Resolution of the Responses to Agency Comments…" (dated August 26, 2002) and Attachment 5 "Final Resolution of the Responses to Agency Comments…" appear to be identical. Significant events that occurred after August 2002 should be discussed in the proposed final resolution. Further, the regulatory agencies should participate in the development of and agree to the final resolution of agency comments.**

Response: This attachment was inadvertently included in the document and, as DTSC noted, is identical to Attachment 4. Attachment 5 was intended as a placeholder within the draft final FOST for Parcel A, Revision 2, and should have been blank. The draft final FOST for Parcel A, Revision 3, Attachment 5 has been revised to include these responses to comments.

RESPONSE TO RWQCB COMMENT

1. Comment: **Since the issuance of the Parcel A FOST (Revision 2) on March 19, 2004, the Navy provided the regulatory team (i.e., EPA, DTSC, and Water Board) and the Restoration Advisory Board with new information related to the environmental condition of Building 322. This new information suggests that Building 322 was once located on Parcel D where it was used by the Naval Radiological Defense Lab and relocated to Parcel A in 1959. The Navy is currently conducting a radiological survey of Building 322 and its slab foundation. It is staff's opinion that until the survey is completed and the results of the survey are provided to the appropriate regulatory agencies for their review and comment, that the environmental condition of Building 322 represents a data gap and the Parcel A FOST is not complete.**

Response: Final results of the radiological survey at Building 322, including the California Department of Health Services' evaluation for release for unrestricted use of the former building site, have been incorporated into the revised Draft Final FOST (Revision 3).

RESPONSES TO CITY COMMENTS

1. Comment: **The extensive research and document review that the Navy conducted for the Historical Radiological Assessment (HRA) has contributed substantially to the information available on all radiological issues and particularly those related to Parcel A. The HRA identifies Building 813 and Building 819 and associated sewer lines as structures that warrant further radiological assessment. Changing the boundary of the Parcel A in this version of the FOST, due to the identification of these structures, is an indication of the significant efforts the Navy has taken to verify that no residual radiological contamination will be left at the site.**

Response: Comment noted.

2. **Comment:** **Since the issuance of the FOST, the Navy has informed the regulators and public of new information pertaining to Building 322 on Parcel A. According to the Navy's records, Building 322 was once located on Parcel D where it was used by the Naval Radiological Defense Lab (NRDL). In 1959, after the NRDL use of the building was discontinued and the Navy had received regulatory clearance for the building, the wooden structure of the building was relocated to Parcel A. Our understanding is that the Navy is currently conducting a radiological survey of Building 322 and its slab foundation applying current regulatory standards. The Navy has informed us that preliminary results of the surveys have shown all readings to be within normal range. We also understand that the Navy will proceed in demolishing and removing the building from the site. The Parcel A FOST cannot be completed until radiological clearance of the Building 322 site is obtained from the appropriate regulatory agencies.**

Response: Final results of the radiological survey at Building 322, including the California Department of Health Services' evaluation for release for unrestricted use of the former building site, have been incorporated into the revised Draft Final FOST (Revision 3).

3. **Comment:** **The City's other concern, expressed in previous comments, was related to the potential for landfill gases at the adjacent Parcel E landfill to affect Parcel A. Based on our review of information provided in this FOST and in ongoing updates from the Navy on the extensive extraction, monitoring, and testing work at the landfill and on the UCSF property, we now believe those landfill gas concerns have been resolved.**

Response: Comment noted.

RESPONSES TO PUBLIC COMMENTS FROM DR. AHIMSA PORTER SUMCHAI

1. **Comment:** **The Navy issued Revision 1 of the basewide Environmental Baseline Survey on September 4, 1998. The basewide EBS classifies the installation property in accordance with the DoD's environmental condition of property (ECP) Area Type Categories.**

Area 4 is defined as an area where release, disposal and/or migration of hazardous substances has occurred, and all remedial actions necessary to protect human health and the environment have been taken. Area Type 6 is defined as areas where release, disposal, and or migration of hazardous substances has occurred, but required

actions have not yet been implemented. Area Type is defined as unevaluated areas or areas requiring additional evaluation.

The Parcel A FOST identifies six of the fifteen subparcels on Parcel A to be ECP Area Type category 6 or 7. Please explain how unevaluated ECP 7 areas in Parcel A can be designated suitable for transfer under current DoD guidelines.

Response: The discussion of overall parcel classifications was deleted within the text and tables to clarify the document. No unevaluated environmental condition of property (ECP) 7 areas are in Parcel A.

2. **Comment:** **Subparcel H-48-A is assigned an ECP overall Category of 7. This subparcel has been designated for Residential development under the HPS Phase I Development Area and Land Use Plan. Please document under the "asbestos or radiation" header of Table 5 that Building 821 is radiation impacted under MARSSIM guidelines. Additionally, the sanitary sewer system located along Crisp Avenue requires a radiological scoping survey. As such, the Navy cannot with certainty state, "the portion of the subparcel within the Parcel A boundary will not be impacted by the migration of hazardous substances in soil or groundwater from adjacent parcels."**

Response: Subparcel H48A is assigned an ECP Category of 4 (see Table 4 of the FOST). The overall subparcel H48 was assigned an ECP Category of 7; however, the ECP category of the overall parcel H48 is not relevant to Parcel A and these overall ECP categorizations have been dropped to clarify the document. Please see the response to DTSC comment 5 for further discussion.

Building 821 is located in subparcel S46A. This subparcel was initially assigned an ECP category of 6 and is now assigned an ECP category of 1. As discussed in Section 5.1.3.2 of the FOST, Building 821 was designated as impacted in accordance with Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) guidelines. A radiological survey in June 2002 established that radiological material was not used or stored in the building and that contamination did not occur. The building has since been accepted for unconditional release by the California Department of Health Services. Table 4 of the FOST will be revised to indicate "R" under the asbestos or radiation column. In addition, a footnote will be added to the end of the table to read as follows: "R Radiation Impacted."

Section 2.0 of the FOST notes that the boundary for Parcel A has been revised to remove portions of Spear and Fisher Avenues, Buildings 813, 819 (Sewer Pump Station), and 823 and the surrounding area. A survey has been recommended for the sanitary sewer main line along Fisher and Spear Avenues that flows into the pump station and the main line along

Crisp Avenue that flows out of the pump station. The survey results will be discussed in the future Parcel D CERCLA documentation. Potential impact on the Parcel A property by migration of hazardous substances (and, specifically, radioactive substances in soil or groundwater) is low—as addressed in Section 5.1.5 of the FOST, second paragraph.

3. **Comment:** **Subparcel H-53 is assigned an ECP Category 4. It includes a sanitary sewer system with lines on Coleman and Innes Street and Jerrold Avenue flowing toward Donahue Street. Additionally, the storm sewer system line extends down Innes street and drains toward Parcel B with an Outfall near Berth 64. Herbicide contamination was documented in the sanitary sewer system. The Parcel A RI report verifies that no radiological scoping survey or sediment analysis was conducted at IR 59. Therefore, the Subparcel H-53 and its sewer lines must be included in the Basewide Impaction Radiological scoping survey.**

Additionally, Building 906 on subparcel H-53 was determined to harbor lead, hazardous materials and hazardous waste. Please document the projected use of Building 906 and clarify the statement, "no remedial action for lead-based paint is necessary on Parcel A." According to the Addendum to the EIR for HPS Phase I Demolition would remove most structures on Parcels A and B. "Soil removed would be retained and used for fill in other areas of Phase I, including the Hillside area. No import soil will be used." Thus, lead in soil from demolished lead contaminated buildings and foundations can bioaccumulate as a toxic hazard.

Response: During the Parcel A Site Inspection, organochlorine herbicides 2-(2-methyl-4-chlorophenoxy)-propionic acid (MCPP) and 4-chloro-2-methylphenoxy acetic acid (MCPA) were detected at concentrations ranging from 6,000 to 23,000 milligrams per kilogram (µg/kg) in the sanitary sewer system. However, the method used for the analyses, electron capture detection (ECD), is not sensitive to MCPP and MCPA, and often results in a high reporting limit. Because of this and risk management concerns that it raises, a special gas chromatography/mass spectrometry (GC/MS) technique that applies selective ion monitoring (SIM) was performed on soil extracts from two samples with relatively high levels of MCPP and MCPA. Results under SIM technique did not confirm the results from ECD analyses, and the previous false positive results were attributed to matrix interferences. In addition, lower reporting limits for MCPP and MCPA of approximately 1,000 µg/kg were achieved (PRC 1993). Based on these facts, MCPP and MCPA results were considered as not detected in the Parcel A RI (HLA 1995). Parcel A site investigation further concluded that low concentrations of pesticides and herbicides in the sanitary sewer system have minimal potential for

further transport of these compounds, and do not pose any significant health risks.

IR-59 designates the groundwater system in Parcel A, while IR-59 JAI refers to an area inside H53, about 150 feet northwest and downslope of SI-43. The Navy assumes that the comment is referring to IR-59 JAI by "IR-59" for this comment. The fact that no radiological scoping survey was conducted at IR-59 JAI does not support the comment's conclusion that such a survey must be done. Parcel A was not listed as impacted in the August 2004 final Historical Radiological Assessment [HRA] because there is no reasonable potential that radioactive material was used, stored, or disposed at Parcel A. Final results of the radiological survey at Building 322, including the California Department of Health Services' evaluation for release for unrestricted use of the former building site, have been incorporated into the revised Draft Final FOST (Revision 3).

Demolition of all buildings on Parcel A is expected, and no use is projected for Building 906 prior to demolition. Further, deed covenant will prevent interim residential use of any building on Parcel A prior to demolition.

Contrary to the statement in the comment, the words "no remedial action for lead-based paint is necessary on Parcel A" are not included within the FOST. To the contrary, Section 5.3.2 contains restrictions based on known presence of LBP that prohibit interim use of structures for residential purposes—and require soil sampling and remediation after demolition prior to occupancy of newly constructed dwelling units. Removed soil will be screened against toxic characteristic leaching procedure (TCLP) criteria for lead concentrations, in accordance with 40 CFR Part 261.21. Soil exceeding the criteria for lead concentrations will be subject to disposal in accordance with applicable laws and regulations.

4. **Comment:** **Subparcels H-OS-A and H-OS-D are assigned an overall ECP Category 7. The sanitary sewer main located along Spear Avenue at the border of Parcel A and D requires a full radiological scoping survey. Thus, the Navy cannot state with certainty that the portion of this subparcel is safe and suitable for transfer as no ROD has been issued for Parcel D.**

Response: Subparcel HOS-A is assigned an ECP Category of 4 (see Table 4 of the FOST). The overall subparcel HOS was assigned an ECP Category of 7; however, the ECP category of the overall Parcel HOS is not relevant to Parcel A, and these overall ECP categorizations have been dropped for clarification. Please see the response to DTSC comment 5 for further discussion.

No additional radiological scoping surveys of Parcel A are necessary, as discussed in the response to the previous comment.

As described in Section 2.0 of the FOST, Revision 2 (and 3), the boundary of Parcel A was revised in 2004 to exclude the property containing the sanitary sewer main line along Fisher and Spear Avenues that flows into the Building 819 pump station, where scoping surveys are recommended in the HRA. Therefore, HOS-A does not include the sanitary sewer main located along Spear Avenue. The ROD and FOST (Section 5.1.5) address the low potential for hazardous substances on adjacent parcels to affect Parcel A, and conclude that parcel is suitable for transfer.

5. Comment: **Subparcels N-1-A and N-1-B are assigned an overall ECP Category 6. The IR-18 site in Parcel B is radiation impacted under MARSSIM Guidelines and a source of radiation health hazard and documented gamma readings above background have been recorded here. This is proposed as one of three possible "community development" sites with intended uses including "health clinics". Please designate this as being radiation impacted under the Table 5 "asbestos or radiation" heading. Similarly, N-3-A and N-3-B are assigned an overall ECP category 6. IR-07 and IR-18 were used for disposal of sandblast waste from decontamination of Operation Crossroads ships and were later designated as a Triple A contamination site, according to the Draft Final HRA. The 1992 SCRS identified areas within IR-07 and IR-18 that contained soils that emitted elevated gamma count rates more than 1.5 times that of expected background. Soil samples contained approximately 5 pCi/g Radium 226. Elevated gamma count rates were attributed to G-RAm from sandblast waste from decontamination efforts under Operation Crossroads. The 1994 NAREL conducted radiometric analysis of IR-18 soil. Ra226 was postulated to be natural components of the mineralogy of monazite and zircon. Based on the mineralogy the soil appears to have been imported from another California location for use as fill at HPS. Black sandblast waste was found at an IR-07 excavation site during Parcel B Remedial activities.**

Response: As described in Section 2.0 of the FOST, Revision 2 (and 3), the boundary of Parcel A was revised in 2002 to completely exclude excavation areas in Parcel B and to include a buffer zone at least 20 feet wide between excavation areas and the boundary of Parcel A. Therefore, N1A does not include the areas impacted by potential contaminants in Parcel B and is suitable for transfer. Contaminants in Parcel B will be addressed separately in an amended Parcel B ROD and do not impact the transferability of Parcel A.

Subparcel N1A is assigned an ECP Category of 1 (see Table 4 of the FOST). The overall subparcel N1 was assigned an ECP category of 6; however, the ECP category of the overall subparcel N1 is not relevant to

Parcel A, and these overall ECP categorizations have been dropped for clarification. Similarly, subparcel N3A is assigned an ECP category of 1 (see Table 4 of the FOST). The overall subparcel N3 was assigned an ECP category of 6; however, the ECP category of the overall Parcel N-3 is not relevant to Parcel A, and these overall ECP categorizations have been dropped for clarification. Please see the response to DTSC comment 5 for further discussion.

6. **Comment:** **N-17 A,B&C are designated ECP overall 7. The sanitary sewer main along Fisher Avenue at the Parcel A boundary with Parcel C requires a full radiological scoping survey. Similarly, Subparcel S-46 A, D & E contains the sanitary sewer system main located along Spear Avenue and Crisp Avenue and requires a radiological scoping survey.**

Response: As described in Section 2.0 of the FOST, Revision 2 (and 3), the boundary of Parcel A was revised in 2002 to completely exclude excavation areas in Parcel B and to include a buffer zone at least 20 feet wide between excavation areas and the boundary of Parcel A. In addition, the boundary has been changed to exclude the sanitary sewer system located along Spear and Crisp Avenue to allow further investigation to include a scoping survey as noted by the commentator. Therefore, N17A does not include the areas impacted by potential contaminants in Parcels B, C, D, and E, and is suitable for transfer.

Subparcel N17A is assigned an ECP Category of 2 (see Table 4 of the FOST). The overall subparcel N1 was assigned an ECP category of 7; however, the ECP category of the overall subparcel N17 is not relevant to Parcel A, and these overall ECP categorizations have been dropped for clarification. Similarly, subparcel S46A is assigned an ECP category of 1 (see Table 4 of the FOST). The overall subparcel S46 was assigned an ECP category of 6; however, the ECP category of the overall subparcel S46 is not relevant to Parcel A, and these overall ECP categorizations have been dropped for clarification. Please see the response to DTSC comment 5 for further discussion.

7. **Comment:** **San Francisco Fire Department records and the Community Notification plan document a series of fires have occurred every year at HPS beginning as early as Spring through the late fall. They have occurred in areas as diverse as the Drydock regions, the Parcel E landfill, the Innes Avenue residential regions, the parking lot of Building 815 and in other areas on and around the base. The Navy has excused these fires as "set fires" and "brush fires". They are more likely kindled by the presence of "total oil and grease", petroleum products, volatile organic compounds and other flammable components such as PCB's and pesticides. Please describe**

current fire prevention, suppression activities at HPS and the need for a fire suppression unit within the landfill gas removal network.

Response: The landfill gas extraction system operates at a very low flow rate to limit the migration of methane. Based on the methane concentrations in the landfill gas removal network, a "fire suppression unit" is not needed. The Navy maintains a fire station on HPS, exercises brush control, and investigates causes of all fires. The Navy has determined that most fires have originated off site. Further, investigations have uncovered no evidence of fires kindled by presence of compounds listed in the comment; rather, most fires appear to have been set deliberately or inadvertently.

8. Comment: **Please describe the exact status of radiation impacted buildings on or adjacent to Parcel A including building 322, 813 and 819. Also describe the status of community radiation impacted structures including the warehouses in the D series and the Islais Creek warehouses.**

Response: The two impacted buildings inside the currently defined Parcel A boundaries (816 and 821) have been surveyed and cleared for unrestricted use. Scoping surveys of six impacted buildings (813, 819, 142, 815, 820, and 830) in adjacent areas have been recommended. Remediation followed by a scoping survey has been recommended for one impacted building (810). For one impacted building (103), review and approval of the final status survey are required. Final results of the radiological survey at Building 322, including the California Department of Health Services' evaluation for release for unrestricted use of the former building site, have been incorporated into the revised Draft Final FOST (Revision 3). The warehouses in the D series and the Islais Creek warehouses are not located on Navy property and are not the subject of this FOST.

9. Comment: **Arc Ecology scientist Christine Shirley in a letter dated May 24, 2002 stated that Figure 2-1 of the Parcel A Remedial Investigation Report shows the 1935 shoreline extending past Crisp Avenue and under Buildings 816 and 808. The Navy should provide evidence in the FOST that the landfill debris does not, in fact, cross Crisp Avenue. Please respond to this in the FOST Revision 2 comments.**

Response: This comment is identical to the Arc Ecology comment that was addressed in 2002. Please see the response to Arc Ecology comment 5, dated May 24, 2002, concluding that that landfill debris does not likely extend into or across Crisp Avenue (Attachment 3).

10. Comment: Finally, Title VI of the Civil Rights Act of 1964 requires the City and County of San Francisco, the Redevelopment Agency and CAL/EPA and DTSC to identify and address any disproportionately high human health, socioeconomic, or environmental impacts of their programs, policies, and actions on inory or low-income populations. Please justify the use of specific Hunters Point ambient levels calculated at the 95th percentile of a normal population curve for toxic chemicals of specific concern on a Federal superfund site and the ROD's documentation of CPOC's in post-excavation soil exceeding PRG's and HPAL's.

Response: Hunters Point ambient levels (HPAL) were calculated in 1995 as part of the RI. A human health risk assessment (HHRA) was prepared as part of the RI. The HHRA evaluated the risk under a commercial/industrial scenario and a residential scenario. Based on the results of the risk assessment, the Navy, EPA, and the California EPA concluded that Parcel A did not pose a significant threat to human health. The ROD was signed in November 1995. That concentrations in samples exceeded the preliminary remediation goals (PRG) and the HPALs was not found to create an unacceptable risk, and this analysis was documented in the RI and the ROD.

The Navy has complied with the DoD Strategy on Environmental Justice (March 25, 1995). In the 1995 Guidance, DoD stated its intent to promote partnerships with all stakeholders, identify impacts of DoD activities on minority and low-income populations, and foster non-discrimination in DoD programs.

Executive Order 12898 requires federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

Environmental justice concerns were thoroughly addressed in the "Final Environmental Impact Statement [EIS] for the Disposal and Reuse of HPS" (March 2000). Section 5.5 of the EIS explained how the Navy complied with Executive Order 12898 by gathering information to identify areas of low-income and high minority populations in the area, assessing the disposal and reuse actions for disproportionate impacts resulting from on-site activities associated with reuse of the site, and encouraging community participation through public hearings and extensive public notification. The Navy considered environmental justice and responded to comments raised by the public on environmental justice. The EIS explained that the Navy is required to remediate HPS to a level commensurate with the local reuse plan, and the remediation levels are intended to protect human health based on human exposures likely to occur within the specific land use. It also stated that Navy remedial actions and future City redevelopment activity will be regulated by

CERCLA RODs, worker safety regulations, and possible deed restrictions to ensure protection of workers and the public. The EIS addressed the concern that residents could be disproportionately exposed to health risks, but found it speculative to conclude that a significant environmental impact would result in this instance.

RESPONSES TO ARC ECOLOGY COMMENTS

1. Comment: **There are carcinogenic and non-carcinogenic health risks above EPA's acceptable levels at the majority of IR and SI sites on Parcel A largely due to elevated levels of metals in the soil. Arc Ecology believes strongly that risks from metals in soils at Parcel A should be disclosed in the Finding of Suitability to Transfer (FOST) to allow future owners of the property to make informed decisions about the use of the property. According to Section 6, the Notice of Hazardous Substances, "There are no known releases of hazardous substances at Parcel A at a quantity greater than or equal to the CERCLA reportable quantity" (page 24). While the data provided thus far has not clearly demonstrated that the high levels of metals are a result of Navy activity, the Navy, being fully aware of these risks, has a responsibility to disclose this information in order to fully protect the health of future workers and residents of Parcel A. Indeed, in the response to Arc Ecology's comments on the *Draft Parcel A Finding of Suitability to Transfer, Revision 2, Hunters Point Shipyard, San Francisco, California*, dated March 26, 2002, the Navy agreed to revise the FOST to include the residual risk at Parcel A that was previously presented in the RI and the ROD, however this has not been included. Additionally, an explanation of why the Navy believes they are not responsible for the cleanup of these contaminants under CERCLA should be included.**

Attachment 1 shows the carcinogenic and non-carcinogenic health risks from metals at each of these sites, which have been calculated using both the 1995 and 2002 preliminary remediation goals from Region IX EPA. The risks calculated are for a residential scenario but do not include the risks from the consumption of homegrown produce.

Response: The FOST revision 2 addressed residual risk, as was agreed in the response to Arc Ecology's prior comment. Please see Section 5.1.1, fourth paragraph.

According to the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), applicable or relevant and appropriate requirements (ARAR) were "frozen" when the ROD was signed (55 FR 8757). The NCP states as follows:

"Once a ROD is signed and a remedy chosen, EPA will not reopen that decision unless the new or modified requirement calls into question the protectiveness of the selected remedy. EPA believes that it is necessary to 'freeze ARARs' when the ROD is signed rather than at initiation of remedial action because continually changing remedies to accommodate new or modified requirements would, as several commentors noted, disrupt CERCLA cleanups, whether the remedy is in design, construction, or in remedial action."

In addition, because PRGs presented in the attachment to this responses to comments are not promulgated or enforceable standards, modification of PRGs after issuance of the ROD does not affect the finality of the chosen remedies.

2. **Comment:** **The Navy should disclose of the possibility of finding additional sandblast grit in the FOST and state that the Navy is responsible for remediating any additional sandblast grit discovered on Parcel A during redevelopment. During the site inspections and remedial investigation, contaminated sandblast grit was discovered under pipes at IR-59 and beneath two landscaped medians next to building 901 (SI 19). Both of these areas of sandblast grit were removed. However, a comprehensive survey for other areas of sandblast grit on Parcel A was not conducted. The use of sandblast grit as backfill and bedding material was not uncommon on military facilities. For this reason, it seems possible that sandblast grit will be found at other locations on Parcel A.**

Response: Section 5.1.1 has been modified to add the following new sentences after fifth paragraph: "Abrasive blast material (ABM) was discovered that had been used as bedding material for a sanitary sewer main at IR-59 JAI. This ABM contained metals, and the ABM and sewer sections were removed during the IR-59 JAI excavation. It is possible that additional ABM may have been used elsewhere in Parcel A as bedding material for piping; however, an investigation to identify and remove all such ABM that may exist is not practical. Therefore, additional ABM could be discovered in the future." The Navy's responsibility for additional remedial actions is already described in Section 7.0, paragraph (B), which contains the covenant required by CERCLA. This covenant will be incorporated in the deed.

3. **Comment:** **It is unclear what the regulatory procedure will be for sites that were a part of Parcel A under the ROD that are now located within parcels for which no Record of Decision exists. As stated in Section 2, the boundary of Parcel A has changed several times since the Record of Decision (ROD) was signed in 1995. Please include an explanation of how these sites will be handled in the future under the CERCLA process.**

Response: Please refer to the response to DTSC comment 1.

4. Comment: **An explanation of how it was determined that the storm water and sewer system lines in Parcel A are not a part of the Radiological Affairs Support Office's (RASO) recommendation for a radiological survey should be included in the FOST. According to Section 2, the Historical Radiological Assessment (HRA) recommended a survey for the sanitary sewer main lines along Fisher and Spear Avenues that flow into the pump station and the main line along Crisp Avenue that flows out of the pump station (page 6). However, the recommendation in Section 8 of the draft final HRA for the sanitary sewer system and storm drain lines is less specific. It reads, "Scoping and Characterization Surveys of systems associated with NRDL sites or sites associated with radium use" (pages 8-218 – 8-222). There has been some concern raised by the community about the possibility for radiological contamination in the storm water and sewer system lines in Parcel A. To give greater assurance to the community, an explanation of how it was determined that the storm water and sewer system lines in Parcel A are not a part of RASO's recommendation should be included in the FOST. Preferably, an exemption letter from RASO for the lines that fall within the current Parcel A boundaries should be provided.**

Response: Conclusions outlined in the HRA are based on the process described therein. The HRA did not identify either the storm drains or the sanitary sewer lines in the current Parcel A as radiation impacted because no historical evidence of use or releases of radioactive substances indicated radiological activities on Parcel A. In addition, sewer lines on Parcel A flow by gravity off parcel toward Parcels B, C, D, and E; therefore, it is highly unlikely that sewer lines would serve as conduits for migration of contamination from radiation-impacted sites located within these adjacent parcels. The FOST correctly relies on the analyses and conclusions presented in other documents such as the HRA.

5. Comment: **It is unclear whether any sampling has been done within the subparcels that straddle two parcels to ensure that the neighboring areas do not impact them. As described in Section 5, six of the fifteen subparcels from the Environmental Baseline Survey lie either entirely or partially in Parcel A. We are concerned that there are potential data gaps along the parcel borders that divide the subparcels. In particular, we are concerned about subparcels N1A and N3A due to their proximity to IR-18 on Parcel B. IR-18 is a waste disposal area that has not been fully characterized. If the Navy does not feel there are data gaps in these subparcels, please provide adequate justification, such as previous data collected, location of relevant samples, etc.**

Response: The Navy split EBS parcels N1 and N3 in two, and assigned an ECP category of 1 to the portions that remain in Parcel A (N1A and N3A), because the lateral extent of the hazardous substance releases associated with IR-07 and IR-18 does not affect these parcels. This conclusion gains credibility from the fact that remedial actions in these IR sites in Parcel B proceeded in the direction of the Parcel A boundary until confirmation samples demonstrated no contamination existed above cleanup criteria (Point Paper, Response to Concern Raised by Dr. Ahimsa Sumchai, Technical Basis for Suitability for Transfer of Parcels N1A and N3A, Parcel A FOST).

6. **Comment:** **Difficulties with and weaknesses of the landfill gas control system should be disclosed in the FOST. In the summary of the landfill gas time-critical removal action, the document states, "Gas control has been primarily achieved by passive venting; however, active extraction is occasionally used to ensure that landfill gas does not migrate north of the barrier." (Section 5.1.5, page 17) This sentence is not entirely true. Active extraction has been necessary at times because LFG has been detected north of the barrier.**

Response: Section 5.1.5, Off-Parcel Issues, paragraph 7, second sentence has been revised as follows:

"Gas is controlled by passive or active venting to remove landfill gas from the UCSF property and to prevent further migration north of the barrier wall."

7. **Comment:** **It is important to note that the results of the Johnson and Ettinger modeling have not yet gained regulatory approval. Section 5.1.5 mentions that this modeling was used to evaluate risks to future residents from exposure to volatile organic compounds in indoor air along Crisp Avenue, however the results have not yet been approved.**

Response: Results of the vapor intrusion evaluation of VOCs detected in soil gas samples collected along Crisp Avenue have been published in a final report submitted by the Navy to the regulatory agencies on December 23, 2003. Please refer to the document titled "Parcel E Nonstandard Data Gaps Investigation Landfill Gas Characterization, Hunters Point Shipyard, San Francisco, California," dated December 23, 2003. There is no requirement for regulatory approval of the risk assessments until a ROD is completed for Parcel E; however, the regulatory agencies are free to express any concerns they may have regarding adjacency issues affecting the Parcel A FOST. The regulatory agencies have not expressed concern about indoor air issues associated with the landfill affecting Parcel A.

8. Comment: **Please update the FOST to include the latest information about Building 322 before conveying the property.**

Response: Final results of the radiological survey at Building 322, including the California Department of Health Services' evaluation for release for unrestricted use of the former building site, have been incorporated into the revised Draft Final FOST (Revision 3).

Minor Comments

9. Comment: **Table 4, which shows the original and updated categorization of each subparcel, should provide the UST, asbestos, and radiation information for all listed buildings, IR sites, and SI sites that are not on Parcel A. As the table is currently laid out, only the sites in Parcel A are rated, giving the reader the impression that the adjacent off-parcel sites carry the same rating, which is often not the case. Please correct the table as necessary to avoid any confusion.**

Response: Table 4 has been revised to remove discussions of overall ECP categories and only include subparcels in Parcel A. Because subparcels outside of Parcel A are not relevant except for those discussed in Section 5.1.5, Off-Parcel Issues, they have been removed from Table 4. Please also refer to DTSC comment 4.

10. Comment: **Section 5, ECP Area Type 4, page 10: "Soils containing the constituents listed in Table 6 were removed during a site investigation of site inspection (SI) site 19 that is wholly contained within Subparcel H-48A." It is SI 41 that is located within subparcel H-48A. A similar error was made in the discussion of subparcel H-OS, which lists SI 41 as being contained with the subparcel, when it should in fact list SI 19. Please correct the text as necessary.**

Response: Section 5.0, ECP Area Type 4, second paragraph, second sentence, has been changed as follows:

"Soils that contain the analytes listed in Table 6 were removed during investigation by excavation as part of an SI of Site 41 that is wholly contained within subparcel H48A."

Section 5.0, ECP Area Type 4, third paragraph, second sentence, has been changed as follows:

"Soils that contain the analytes listed in Table 6 were removed during investigation by excavation during a site investigation of site SI-19 that is wholly contained within subparcel H-OS."

REFERENCES

Harding Lawson Associates (HLA). 1990. "Preliminary Assessment, Other Areas/Utilities, Naval Station, Treasure Island, Hunters Point Annex, San Francisco, California." October 19.

PRC Environmental Management, Inc. (PRC). 1993. "Draft Final Parcel A Site Inspection Report, Naval Station Treasure Island, Hunters Point Annex, San Francisco, California." October 15.

Tetra Tech EM Inc (Tetra Tech). 1998. "Final Basewide Environmental Survey, Revision 01, Hunters Point Shipyard, San Francisco, California." Volume 1 of 2. September 4.

"Point Paper, Response to Concern Raised by Dr. Ahimsa Sumchai, Technical Basis for Suitability for Transfer of Parcels N1A and N3A, Parcel A FOST."

ATTACHMENT TO ARC ECOLOGY COMMENT 1

TABLE 1: CANCER AND NONCANCER HEALTH RISKS WITH 1995 PRGS FOR SITE 19

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 1995 Noncancer PRG (mg/kg)	EPA 1995 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Antimony	9.05	1.2E+01	3.1E+01		0.394	
Arsenic	11.1	9.1E+00	2.2E+01	3.2E-01	0.414	2.84E-05
Barium	314.36	1.5E+02	5.3E+03		0.028	
Beryllium	0.71	4.0E-01	3.8E+02	1.4E-01	0.001	2.86E-06
Cadmium	3.14	2.0E+00	9.0E+00	1.4E+03	0.222	1.43E-09
Chromium	*334.2*	7.7E+02	3.8E+02	2.0E-01	2.021	3.84E-03
Cobalt	*47.64*	8.4E+01	2.1E+06		0.000	
Copper	124.31	1.5E+02	2.8E+03		0.053	
Lead	8.99	1.4E+01	1.3E+02		0.108	
Manganese	1431	1.4E+03	3.8E+02		3.605	
Mercury	2.28	2.0E-01	2.3E+01		0.009	
Molybdenum	2.68	1.9E+00	3.8E+02		0.005	
Nickel	*494.33*	1.4E+03	1.5E+03	1.5E+02	0.933	9.33E-06
Selenium	1.95	NA	NA			
Silver	1.43	6.8E-01	3.8E+02		0.002	
Thallium	0.81	NA	6.1E+00			
Vanadium	117.17	9.3E+01	5.4E+02		0.171	
Zinc	109.86	2.3E+02	2.3E+04		0.010	
				TOTAL	**7.975**	**3.88E-03**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 2: CANCER AND NONCANCER HEALTH RISKS WITH 2002 PRGS FOR SITE 19

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 2002 Noncancer PRG (mg/kg)	EPA 2002 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Antimony	9.05	1.2E+01	3.1E+01		0.394	
Arsenic	11.1	9.1E+00	2.2E+01	3.9E-01	0.414	3.94E-07
Barium	314.36	1.5E+02	5.4E+03		0.027	
Beryllium	0.71	4.0E-01	1.5E+02	1.1E+03	0.003	2.72E-08
Cadmium	3.14	2.0E+00	3.7E+01	1.4E+03	0.054	2.67E-09
Chromium	*334.2*	7.7E+02	2.1E+02	2.2E+02	3.657	5.41E-08
Cobalt	*47.64*	8.4E+01	9.0E+02	9.0E+02	0.094	3.66E-06
Copper	124.31	1.5E+02	3.1E+03		0.048	
Lead	8.99	1.4E+01	1.5E+02		0.093	
Manganese	1431	1.4E+03	1.8E+03		0.761	
Mercury	2.28	2.0E-01	6.1E+00		0.033	
Molybdenum	2.68	1.9E+00	3.9E+02		0.005	
Nickel	*494.33*	1.4E+03	1.6E+03		0.875	
Selenium	1.95	NA	3.9E+02			
Silver	1.43	6.8E-01	3.9E+02		0.002	
Thallium	0.81	NA	5.2E+00			
Vanadium	117.17	9.3E+01	5.5E+02		0.168	
Zinc	109.86	2.3E+02	2.3E+04		0.010	
				TOTAL	**6.637**	**4.13E-06**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 3: CANCER AND NONCANCER HEALTH RISKS WITH 1995 PRGS FOR SITE 41

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 1995 Noncancer PRG (mg/kg)	EPA Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Antimony	9.05	6.1E+00	3.1E+01		0.196	
Arsenic	11.1	9.0E+00	2.2E+01	3.2E-01	0.408	2.81E-05
Barium	314.36	1.3E+03	5.3E+03		0.253	
Beryllium	0.71	4.8E-01	3.8E+02	1.4E-01	0.001	3.43E-06
Cadmium	3.14	1.4E+00	9.0E+00	1.4E+03	0.156	1.00E-09
Chromium	*804.9*	4.1E+02	3.8E+02	2.0E-01	1.066	2.03E-03
Cobalt	*92.23*	9.3E+01	2.1E+06		0.000	
Copper	124.31	1.6E+02	2.8E+03		0.057	
Lead	8.99	1.9E+02	1.3E+02		1.431	
Manganese	1431	7.7E+03	3.8E+02		20.360	
Mercury	2.28	2.3E-01	2.3E+01		0.010	
Molybdenum	2.68	1.4E+00	3.8E+02		0.004	
Nickel	*1656.51*	1.7E+03	1.5E+03	1.5E+02	1.127	1.13E-05
Selenium	1.95	7.7E-01	NA			
Silver	1.43	NA	3.8E+02			
Thallium	0.81	5.7E-01	6.1E+00		0.093	
Vanadium	117.17	9.1E+01	5.4E+02		0.168	
Zinc	109.86	3.3E+02	2.3E+04		0.015	
				TOTAL	**25.344**	**2.07E-03**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 4: CANCER AND NONCANCER HEALTH RISKS WITH 2002 PRGS FOR SITE 41

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 2002 Noncancer PRG (mg/kg)	EPA 2002 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Antimony	9.05	6.1E+00	3.1E+01		0.196	
Arsenic	11.1	9.0E+00	2.2E+01	3.9E-01	0.408	2.30E-05
Barium	314.36	1.3E+03	5.4E+03		0.248	
Beryllium	0.71	4.8E-01	1.5E+02	1.1E+03	0.003	4.36E-10
Cadmium	3.14	1.4E+00	1.7E+00	1.4E+03	0.824	1.00E-09
Chromium	*804.9*	4.1E+02	2.1E+02	2.2E+02	1.929	1.84E-06
Cobalt	*92.23*	9.3E+01	9.0E+02	9.0E+02	0.103	1.03E-07
Copper	124.31	1.6E+02	3.1E+03		0.051	
Lead	8.99	1.9E+02	1.5E+02		1.240	
Manganese	1431	7.7E+03	1.8E+03		4.298	
Mercury	2.28	2.3E-01	6.1E+00		0.038	
Molybdenum	2.68	1.4E+00	3.9E+02		0.004	
Nickel	*1656.51*	1.7E+03	1.6E+03		1.056	
Selenium	1.95	7.7E-01	3.9E+02		0.002	
Silver	1.43	NA	3.9E+02			
Thallium	0.81	5.7E-01	5.2E+00		0.110	
Vanadium	117.17	9.1E+01	5.5E+02		0.165	
Zinc	109.86	3.3E+02	2.3E+04		0.015	
				TOTAL	**10.690**	**2.50E-05**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 5: CANCER AND NONCANCER HEALTH RISKS WITH 1995 PRGS FOR SITE 43

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 1995 Noncancer PRG (mg/kg)	EPA 1995 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Antimony	9.05	7.42	3.1E+01		0.239	
Arsenic	11.1	15.03	2.2E+01	3.2E-01	0.683	4.70E-05
Barium	314.36	120.23	5.3E+03		0.023	
Beryllium	0.71	0.33	3.8E+02	1.4E-01	0.001	2.36E-06
Cadmium	3.14	1.04	9.0E+00	1.4E+03	0.116	7.43E-10
Chromium	*1140.42*	770.73	3.8E+02	2.0E-01	2.028	3.85E-03
Cobalt	*119.84*	81.6	2.1E+06		0.000	
Copper	124.31	54.95	2.8E+03		0.020	
Lead	8.99	350.39	1.3E+02		2.695	
Manganese	1431	858.15	3.8E+02		2.258	
Mercury	2.28	0.09	2.3E+01		0.004	
Molybdenum	2.68	2.54	3.8E+02		0.007	
Nickel	*2675.55*	2793.33	1.5E+03	1.5E+02	1.862	1.86E-05
Selenium	1.95	NA	NA			
Silver	1.43	0.31	3.8E+02		0.001	
Thallium	0.81	NA	6.1E+00			
Vanadium	117.17	69.17	5.4E+02		0.128	
Zinc	109.86	120.71	2.3E+04		0.005	
				TOTAL	10.070	3.92E-03

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 6: CANCER AND NONCANCER HEALTH RISKS WITH 2002 PRGS FOR SITE 43

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 2002 Noncancer PRG (mg/kg)	EPA 2002 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Antimony	9.05	7.42	3.1E+01		0.239	
Arsenic	11.1	15.03	2.2E+01	3.9E-01	0.683	3.85E-05
Barium	314.36	120.23	5.4E+03		0.022	
Beryllium	0.71	0.33	1.5E+02	1.1E+03	0.002	3.00E-10
Cadmium	3.14	1.04	1.7E+00	1.4E+03	0.612	7.43E-10
Chromium	*1140.42*	770.73	2.1E+02	2.2E+02	3.670	3.50E-06
Cobalt	*119.84*	81.6	9.0E+02	9.0E+02	0.091	9.07E-08
Copper	124.31	54.95	3.1E+03		0.018	
Lead	8.99	350.39	1.5E+02		2.336	
Manganese	1431	858.15	1.8E+03		0.477	
Mercury	2.28	0.09	6.1E+00		0.015	
Molybdenum	2.68	2.54	3.9E+02		0.007	
Nickel	*2675.55*	2793.33	1.6E+03		1.746	
Selenium	1.95	NA	3.9E+02			
Silver	1.43	0.31	3.9E+02		0.001	
Thallium	0.81	NA	5.2E+00			
Vanadium	117.17	69.17	5.5E+02		0.126	
Zinc	109.86	120.71	2.3E+04		0.005	
				TOTAL	**10.049**	**4.21E-05**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 7: CANCER AND NONCANCER HEALTH RISKS WITH 1995 PRGS FOR SITE 59

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 1995 Noncancer PRG (mg/kg)	EPA 1995 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Aluminum		11118.1	7.70E+04		0.144	
Antimony	9.05	NA	3.1E+01			
Arsenic	11.1	4.52	2.2E+01	3.2E-01	0.205	1.41E-05
Barium	314.36	100.3	5.3E+03		0.019	
Beryllium	0.71	NA	3.8E+02	1.4E-01		
Cadmium	3.14	NA	9.0E+00	1.4E+03		
Chromium	*99.14*	94.93	3.8E+02	2.0E-01	0.250	4.75E-04
Cobalt	*19.11*	14.64	2.1E+06		0.000	
Copper	124.31	17.05	2.8E+03		0.006	
Lead	8.99	70.66	1.3E+02		0.544	
Manganese	1431	416.59	3.8E+02		1.096	
Mercury	2.28	0.1	2.3E+01		0.004	
Molybdenum	2.68	NA	3.8E+02			
Nickel	*92.85*	70.45	1.5E+03	1.5E+02	0.047	4.70E-07
Selenium	1.95	NA	NA			
Silver	1.43	NA	3.8E+02			
Thallium	0.81	NA	6.1E+00			
Vanadium	117.17	51.88	5.4E+02		0.096	
Zinc	109.86	65.39	2.3E+04		0.003	
				TOTAL	**2.415**	**4.89E-04**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 8: CANCER AND NONCANCER HEALTH RISKS WITH 2002 PRGS FOR SITE 59

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 2002 Noncancer PRG (mg/kg)	EPA 2002 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Aluminum		11118.1	7.6E+04		0.15	
Antimony	9.05	NA	3.1E+01			
Arsenic	11.1	4.52	2.2E+01	3.9E-01	0.21	1.2E-05
Barium	314.36	100.3	5.4E+03		0.02	
Beryllium	0.71	NA	1.5E+02	1.1E+03		
Cadmium	3.14	NA	1.7E+00	1.4E+03		
Chromium	*99.14*	94.93	2.1E+02	2.2E+02	0.45	4.3E-07
Cobalt	*19.11*	14.64	9.0E+02	9.0E+02	0.02	1.6E-08
Copper	124.31	17.05	3.1E+03		0.01	
Lead	8.99	70.66	1.5E+02		0.47	
Manganese	1431	416.59	1.8E+03		0.23	
Mercury	2.28	0.1	6.1E+00		0.02	
Molybdenum	2.68	NA	3.9E+02			
Nickel	*92.85*	70.45	1.6E+03		0.04	
Selenium	1.95	NA	3.9E+02			
Silver	1.43	NA	3.9E+02			
Thallium	0.81	NA	5.2E+00			
Vanadium	117.17	51.88	5.5E+02		0.09	
Zinc	109.86	65.39	2.3E+04		0.00	
				TOTAL	**1.70**	**1.2E-05**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 9: CANCER AND NONCANCER HEALTH RISKS WITH 1995 PRGS FOR IR-59 JAI

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 1995 Noncancer PRG (mg/kg)	EPA 1995 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Aluminum		1.6E+04	7.6E+04		0.21	
Antimony	9.05	1.4E+00	3.1E+01		0.05	
Arsenic	11.1	3.7E+00	2.2E+01	3.2E-01	0.17	1.2E-05
Barium	314.36	1.4E+02	5.3E+03		0.03	
Beryllium	0.71	3.4E-01	3.8E+02	1.4E-01	0.00	2.4E-06
Cadmium	3.14	5.0E-01	9.0E+00	1.4E+03	0.06	3.6E-10
Chromium	*417.95*	3.4E+02	3.8E+02	2.0E-01	0.89	1.7E-03
Cobalt	*56.35*	3.5E+01	2.1E+06		0.00	
Copper	124.31	3.1E+01	2.8E+03		0.01	
Lead	8.99	1.0E+01	1.3E+02		0.08	
Manganese	1431	5.7E+02	3.8E+02		1.50	
Mercury	2.28	6.0E-02	2.3E+01		0.00	
Molybdenum	2.68	NA	3.8E+02			
Nickel	*672.31*	5.9E+02	1.5E+03	1.5E+02	0.39	3.9E-06
Selenium	1.95	NA	NA			
Silver	1.43	4.9E-01	3.8E+02		0.00	
Thallium	0.81	2.9E-01	6.1E+00		0.05	
Vanadium	117.17	5.5E+01	5.4E+02		0.10	
Zinc	109.86	6.2E+01	2.3E+04		0.00	
				TOTAL	**3.54**	**1.7E-03**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

TABLE 10: CANCER AND NONCANCER HEALTH RISKS WITH 2002 PRGS FOR IR59 JAI

Chemical of Concern	Hunters Point Ambient Level (mg/kg)	Exposure Point Concentration (mg/kg)	EPA 2002 Noncancer PRG (mg/kg)	EPA 2002 Cancer PRG (mg/kg)	Hazard Quotient	Cancer Risk
Aluminum		1.6E+04	7.6E+04		0.211	
Antimony	9.05	1.4E+00	3.1E+01		0.045	
Arsenic	11.1	3.7E+00	2.2E+01	3.9E-01	0.168	9.49E-06
Barium	314.36	1.4E+02	5.4E+03		0.026	
Beryllium	0.71	3.4E-01	1.5E+02	1.1E+03	0.002	3.09E-10
Cadmium	3.14	5.0E-01	1.7E+00	1.4E+03	0.294	3.57E-10
Chromium	*417.95*	3.4E+02	2.1E+02	2.2E+02	1.619	1.55E-06
Cobalt	*56.35*	3.5E+01	9.0E+02	9.0E+02	0.039	3.89E-08
Copper	124.31	3.1E+01	3.1E+03		0.010	
Lead	8.99	1.0E+01	1.5E+02		0.067	
Manganese	1431	5.7E+02	1.8E+03		0.317	
Mercury	2.28	6.0E-02	6.1E+00		0.010	
Molybdenum	2.68	NA	3.9E+02			
Nickel	*672.31*	5.9E+02	1.6E+03		0.369	
Selenium	1.95	NA	3.9E+02			
Silver	1.43	4.9E-01	3.9E+02		0.001	
Thallium	0.81	2.9E-01	5.2E+00		0.056	
Vanadium	117.17	5.5E+01	5.5E+02		0.100	
Zinc	109.86	6.2E+01	2.3E+04		0.003	
				TOTAL	**3.336**	**1.11E-05**

Notes:

EPA U.S. Environmental Protection Agency
mg/kg Milligrams per kilogram

ATTACHMENT 6
RESPONSES TO REGULATORY AGENCY COMMENTS ON THE FINAL FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A (REVISION 3), HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

RESPONSES TO REGULATORY AGENCY COMMENTS ON THE FINAL FINDING OF SUITABILITY TO TRANSFER FOR PARCEL A (REVISION 3), HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

This document presents the U.S. Department of the Navy's (Navy) responses to comments from staff at the U.S. Environmental Protection Agency (EPA) and Arc Ecology on the on the "Final Finding of Suitability to Transfer [FOST] for Parcel A (Revision 3), Hunters Point Shipyard [HPS], San Francisco, California," dated September 1, 2004. The comments addressed below were received from EPA, on September 27, 2004 and from Arc Ecology on September 30, 2004.

RESPONSES TO EPA COMMENTS

1. Comment: **Section 5.1.3.3, Building 322, Page 16: The text in the first paragraph states that, "NRDL used Building 322 as a research facility" after discussing the fact that this building was moved from Parcel D to Parcel A, but does not clearly state that the Naval Radiological Defense Laboratory (NRDL) use only occurred while Building 322 was located on Parcel D. Further, the text does not state that this building was surveyed in 1955 and that the results of the survey did not exceed release limits at that time, so it was released for reuse. Please revise the text to state that NRDL only used this building when it was located on Parcel D, that the building was surveyed and released before it was moved to Parcel A, and that NRDL did not use this building while it was located on Parcel A.**

Response: The first paragraph of Section 5.1.3.3 has been replaced in it's entirety with the following: "Building 322 was previously located in Parcel D, and was moved to the intersection of Donahue Street and Innes Avenue in 1959 to be used as a pass and decal office. While in Parcel D, Building 322 was used by the NRDL as a research facility building. NRDL had a history of using and storing small sources of radioactive material for instrument calibration. Sources may have included cesium-137, strontium-90, radium-226, plutonium-239, or thorium-232. NRDL surveyed Building 322 in 1955 (before it was moved to Parcel A). The survey resulted in Building 322 being cleared below release limits and NRDL did not use the building after it was surveyed (NAVSEA 2004)."

2. Comment: **Section 5.1.3.3, Building 322, Page 16: The text in the last paragraph states, "the Navy concluded that Building 322 was suitable for unrestricted release," but this building was demolished. It would be more accurate to state that the Building 322 site is recommended for unrestricted release. Please revise the text to state that the Building 322 site is suitable for unrestricted release.**

Response: The last paragraph of Section 5.1.3.3 has been replaced in it's entirety with the following: "As a result, the Navy concluded that the Building 322 site was suitable for unrestricted release. The results of the surveys were submitted to CaDHS in July 2004 for review. In August 2004, CaDHS cleared Base Realignment and Closure (BRAC) property (Building 322) for unrestricted release (CaDHS Environmental Management Branch 2004).

3. **Comment:** **Response to EPA Comment 1: The response only acknowledges that hazardous substances associated with sandblast grit should be described in the deed notice. The notice should also describe the other hazardous substances associated with materials that were excavated during the investigation phase.**

Response: A new sentence has been added to the last paragraph of Section 6.0 as follows: **"**Table 9, Hazardous Substance Notice, will be included in the deed as an attachment."

RESPONSES TO PUBLIC COMMENTS FROM ARC ECOLOGY

1. **Comment:** **Arc Ecology requested that risks from metals in soils at Parcel A be disclosed in the Finding of Suitability to Transfer (FOST) to allow future owners of the property to make informed decisions about the use of the property. The Navy believes that the following sentences address our request, "Based on the HHRA, the ROD for Parcel A concluded that concentrations of hazardous substances in the soil at Parcel A are either within or below EPA's acceptable risk levels or, for metals, are at ambient levels. Accordingly, no action was found necessary for the soil in Parcel A (Section 5.1.1)".**

We are not satisfied with this response. Arc Ecology would like to clarify that we are not suggesting that the Record of Decision be reopened nor that the selected remedy be reevaluated, as the Navy's response to our comment implies. We are requesting that the Navy disclose of the risks associated with the metals in the soils of Parcel A. Simply stating that concentrations of hazardous substances in the soil at Parcel A are either within or below EPA's acceptable risk levels or, for metals, are at ambient levels is not sufficient nor is it accurate. As shown in the risk tables that were attached to our previous comments, there are detections of metals above the Hunters Point Ambient Level. While there may not be evidence that suggests these metals are due to Navy activity, the Navy – being fully aware of these risks – has the responsibility to disclose of the risks in the Parcel A FOST.

Recently, the Navy conducted sampling to prove that the levels of metals detected in the soil at Parcel A are consistent with the levels detected in similar soils around San Francisco. We are fortunate in

this case to have knowledge of the potential risks associated with an unrestricted reuse of the property; we believe it is appropriate for any entity to disclose of this type of information when transferring property. Arc Ecology is not interested in identifying the Navy as the responsible party in this situation. Our goal, rather, is to create a chain of responsible disclosure throughout the transfer and reuse processes that will enable future users to make informed decisions about the use of the property. We are aware that the City is developing an ordinance that will follow the deed and that will acknowledge these risks and hopefully ensure that they are addressed properly during redevelopment. We are asking at this time for consistency between the FOST, the proposed City ordinance, and other transfer documents such as the vertical DDA. As current property owner, the process of responsible disclosure begins with the Navy.

Response: Section 5.1.1 of the FOST clearly discloses that metals are present as contaminates in Parcel A and further discusses the fact that contaminates do not pose a risk to human health or the environment. In addition the presence of metals is further disclosed in the FOST text and tables. The conclusion that contaminates do not pose a risk to human health or the environment is based on the findings of the Record of Decision for Parcel A. The FOST content complies with Joint DoD and EPA guidance for reaching a finding of suitability to transfer and detailed discussion of analytical results and risk analysis are available through the references identified in the FOST Section 1.2. Further detailed discussion as requested by Arc Ecology is not considered appropriate for inclusion in the FOST.

2. Comment: We requested that an explanation of why the Navy believes they are not responsible for the cleanup of these contaminants under CERCLA be included. Such an explanation was not provided in the document.

Response: The explanation for why the Navy is not responsible for cleanup of metals found at Parcel A was inadvertently not provided in the Response to Comments provided with the Draft Final FOST (Revision 3) and is provided below:

The Navy has fulfilled it's responsibilities under CERCLA by the execution of a Record of Decision finding that no further action is required to address contaminants at Parcel A. This finding was made because the overall condition of Parcel A is protective of human health and the environment. This finding considered the presence of contaminants, including metals in soil, at Parcel A. EPA and DTSC concurred with this finding.

ATTACHMENT 7
INFORMATION ON DECOMMISSIONING OF PARCEL A GROUNDWATER MONITORING WELLS AND PIEZOMETERS

PRC Environmental Management, Inc.
135 Main Street
Suite 1800
San Francisco, CA 94105
415-543-4880
Fax 415-543-5480

PRC

June 28, 1996

Mr. William Radzevich
Remedial Project Manager
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive, Bldg. 208
San Bruno, California 94066-5006

Subject: **Parcel A Monitoring Well Abandonment**
Hunters Point Shipyard, San Francisco, California
Contract No. N62474-88-D-5086, Contract Task Order No. 142

Dear Mr. Radzevich:

This letter documents the abandonment of six groundwater monitoring wells installed within Parcel A of Hunters Point Naval Shipyard (HPS), as part of the Navy's Installation Restoration Program. Enclosed is a copy of Table 5-2, IR-59 Well Construction Details, and Figure 5-1, IR-59 Parcel A Groundwater Investigation Activity Location Map, from the Draft Parcel A Remedial Investigation Report, HPS, dated September 22, 1995. All six Parcel A wells were constructed of 4-inch diameter poly-vinyl chloride (PVC) casing installed in 10-inch diameter boreholes. The depth to the bottom of the well screen varied from 17 to 107 feet below ground surface (bgs), as shown in Table 5-2.

The six Parcel A monitoring wells were abandoned following the guidelines of the California Department of Water Resources "Well Standards for Water Wells, Monitoring Wells, and Cathodic Protection Wells," Bulletin 74-90, over the time period April 1, 1996 through April 12, 1996. PRC Environmental Management Inc. (PRC) personnel observed all drilling and grouting operations. Soils Exploration Services (SES) abandoned the monitoring wells by overdrilling the existing 10-inch diameter boreholes to the base of each well with a 12-inch diameter hollow-stem-auger (HSA) drill rig. All drill cuttings were placed in waterproof soil bins and later disposed offsite. Each borehole was then backfilled with bentonite-cement grout placed by tremie tube from the base of the well to the ground surface. The depth of grout in each borehole was then backfilled with bentonite-cement grout placed by tremie tube from the base of the well to the ground surface. The depth of grout in each borehole was monitored during grouting operations in order to ensure that no voids formed during grouting. Each borehole was checked for settlement 24 hours after grouting, and then topped off to the ground surface if necessary. Finally, the areas around each borehole were cleaned and returned to the conditions prior to monitoring well installation.

If you have any questions regarding this letter, please contact either myself at (415) 222-8317, or Mr.

If you have any questions regarding this letter, please contact either myself at (415) 222-8317, or Mr. James Sickles at (415) 222-8344.

Sincerely,

Peter Solberg

Peter Solberg
HPS PRC Field Activity Manager

cc: Jim Sickles, PRC
File

TABLE 5-2

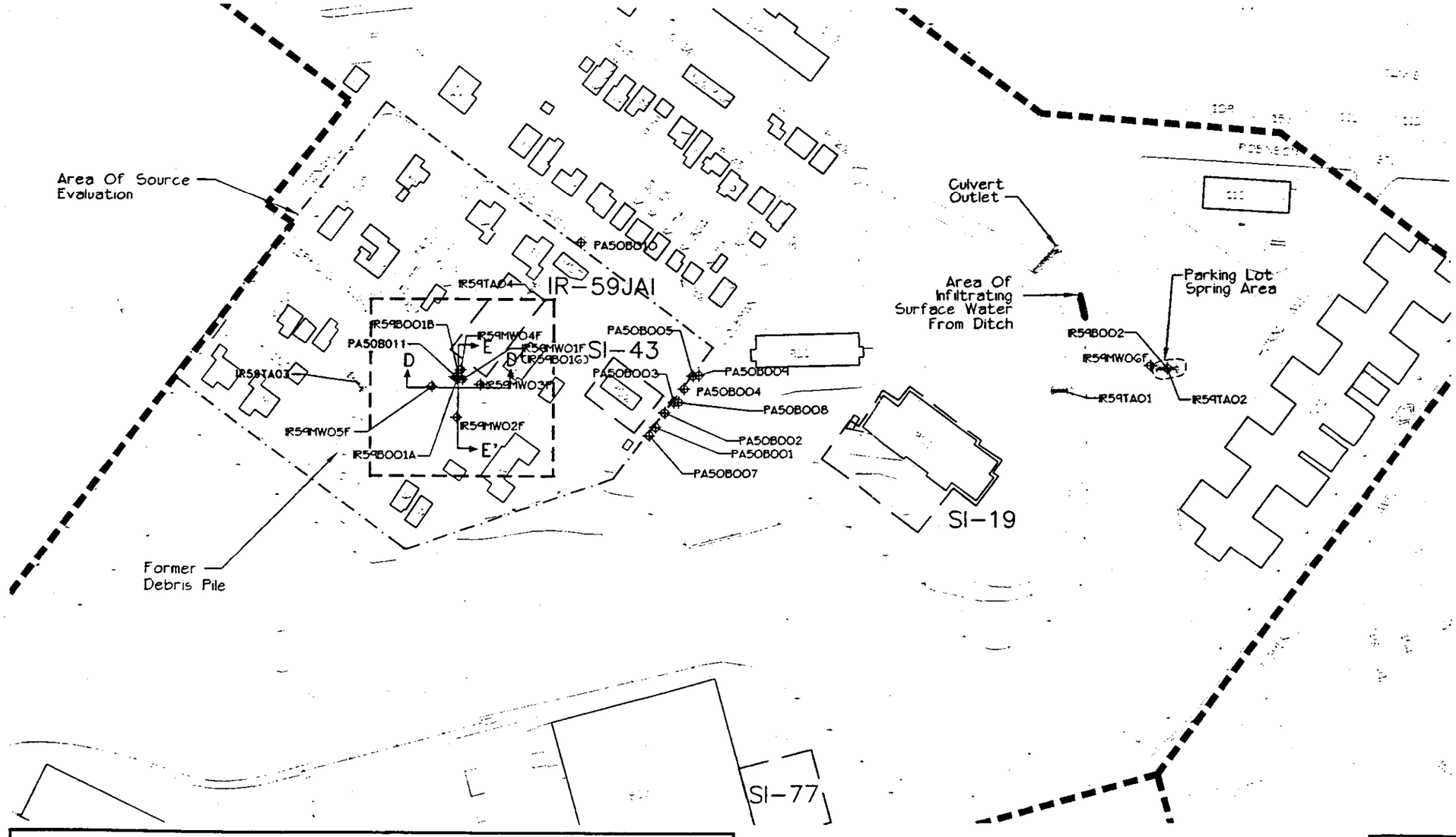
IR-59 WELL CONSTRUCTION DETAILS
PARCEL A RI REPORT, HUNTERS POINT ANNEX

Well Name	Borehole Diameter (inches)	Casing Diameter (inches)	Total Depth of Casing (feet bgs)[a]	Ground Elevation (feet msl)	Top of Casing Elevation (feet msl)[b]	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)
IR59MW01F	10	4	82.5	121.97	121.36	63.0	82.5
IR59MW02F	10	4	66.0	125.08	124.34	46.0	66.0
IR59MW03F	10	4	107.5	124.74	124.14	87.0	107.0
IR59MW04F	10	4	84.5	120.96	120.37	64.0	84.0
IR59MW05F	10	4	69.0	122.66	120.75	49.0	69.0
IR59MW06F	10	4	17.5	30.07	31.89	12.0	17.0

Notes:

a Feet below ground surface
b Feet above mean sea level

bgs Below ground surface
msl Mean sea level



SOURCE: REVISED FROM HLA DRAWING NO. 11400263.DWG - 4/95

HUNTERS POINT ANNEX
SAN FRANCISCO, CALIFORNIA

FIGURE 5-1.
IR-59 PARCEL A GROUNDWATER INVESTIGATION ACTIVITY LOCATION MAP

PRC ENVIRONMENTAL MANAGEMENT, INC.

ERRG

Engineering/Remediation Resources Group, Inc.
4070 Nelson Avenue
Suite B
Concord, CA 94520

Main: (925) 969-0750
Fax: (925) 969-0751

October 13, 2003

Ref: 23-035

Naval Facilities Engineering Command
Environmental Field Division Southwest
1230 Columbia Street, Suite 1100
San Diego, California 92101-8517

Attn: Jose Payne

Re: Parcel A – Well Decommissioning
Hunters Point Shipyard, San Francisco, California
EMAC Contract No. N68711-02-D-8304, Task Order No. 0003

ERRG subcontracted Precision Sampling Inc (PSI), a licensed drilling contractor (License number – 636387), to decommission monitoring wells IR06MW58F and PA18MW08A in Parcel A at Hunters Point Shipyard (HPS), San Francisco, California. The decommissioning activities were conducted on October 10, 2003.

The following procedure was used to decommission wells IR06MW58F and PA18MW08A:

- The wells were opened and depth to water and total depth of well were confirmed.
- A sealing material (grout) consisting of Portland Type II cement was pressure grouted from the base of the borehole to 4 ft below the ground surface.
- The monitoring well covers at the top were removed using jackhammer. The concrete waste generated was stored to be disposed of at a concrete recycler. The scrap iron was removed from site by PSI to be disposed of.
- Cement mix was grouted from 4ft below ground surface to the ground surface, completely covering all well materials left in place including conductor casings.
- The surface of the borehole was then completed with troweling the cement flush with the adjacent asphalt.

ERRG staff was onsite to inspect the decommissioning of the wells. If you have any questions regarding this summary report, please feel free to contact me at 925-250-5285.

Sincerely,

Cheryl LeCompte
Assistant Project Engineer

CL/br

cc: R. Ahlersmeyer, RPM, Hunters Point Naval Shipyard
P. Stroganoff, ROICC, Hunters Point Naval Shipyard
C. Liu, Engineering/Remediation Resources Group, Inc.
Project file (23-035)

Engineering/Remediation Resources Group, Inc.
4070 Nelson Avenue
Suite B
Concord, CA 94520

Main: (925) 969-0750
Fax: (925) 969-0751

March 15, 2004 Ref: 23-035

Naval Facilities Engineering Command
Environmental Field Division Southwest
1230 Columbia Street, Suite 1100
San Diego, California 92101-8517

Attn: Jose Payne

Re: Parcel A – Well Decommissioning
Hunters Point Shipyard, San Francisco, California
EMAC Contract No. N68711-02-D-8304, Task Order No. 0003

ERRG subcontracted Precision Sampling Inc (PSI), a licensed drilling contractor (License number – 636387), to decommission monitoring well IR06P54FA in Parcel A at Hunters Point Shipyard, San Francisco, California. The decommissioning activities were conducted on March 10, 2004.

The following procedure was used to decommission well IR06P54FA:

- The well was opened and depth to water and total depth of well were confirmed.
- A sealing material (grout) consisting of Portland Type II cement was pressure grouted from the base of the borehole to 4 ft below the ground surface.
- The monitoring well covers at the top were removed using a jackhammer. The concrete waste and scrap iron were removed from site by PSI for offsite disposal.
- Cement mix was grouted from 4 feet below ground surface to 2 inches below ground surface, completely covering all well materials left in place including conductor casings.
- Concrete mix was used to finish from 2 inches below the surface to the surface.
- The surface of the borehole was then completed with troweling the cement flush with the adjacent asphalt.
- Lamp black was added to the concrete surface to match surrounding asphalt.

ERRG staff was onsite to inspect well decommissioning. If you have any questions regarding this summary report, please feel free to contact me at 925-250-5285.

Sincerely,

Cheryl LeCompte
Assistant Project Engineer

CL/pf

cc: R. Ahlersmeyer, RPM, Hunters Point Naval Shipyard
P. Stroganoff, ROICC, Hunters Point Naval Shipyard
C. Liu, Engineering/Remediation Resources Group, Inc.
Project file (23-035)

ATTACHMENT 8
MEMORANDA OF UNRESTRICTED RELEASE FOR BUILDING 816, DATED AUGUST 24, 2001, MARCH 28, 2002, AND MARCH 29, 2002

State of California Department of Health Services

M e m o r a n d u m

Date: **August 24, 2001**

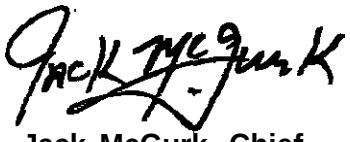
To: **Mr. Stan Phillippe, Chief**
Office of Military Facilities
Department of Toxic Substances Control (DTSC), Region 2
400 P Street
Sacramento, California 95812

From: **Environmental Management Branch**
P.O. Box 942732
601 North 7th Street, MS 396
Sacramento, California 94234-7320
(916) 445-0498

Subject: **Release of Building 816, Parcel A at Hunters Point Shipyard**

Upon the request of The Department of Toxic Substance Control (DTSC), DHS reviewed radiological issues associated with Building 816, Hunters Point Shipyard. DHS has actively participated in review of site documentation and performed site visits. DHS has reviewed the information provided by the Department of the Navy in a letter and attached documents dated August 9, 2001 from Mr. Richard Mach, BRAC Environmental Coordinator. DHS had some further questions, which were directed, to the Navy's Radiological Affairs Support Office (RASO). These questions were adequately answered by way of e-mails which will be maintained in our files. Based on this review, DHS has concluded, that with respect to radiological issues, Building 816 in Parcel A at Hunters Point Shipyard is acceptable for unrestricted release.

If you need further assistance please contact Deirdre Dement of my staff at (916) 324-2209.



Jack McGurk, Chief

cc: **Mr. Chein Kao**
Office of Military
Department of Toxic Substances Control (DTSC), Region 2
700 Heinz Avenue, Suite 200
Berkeley, California 94710

MEMORANDA REGARDING UNRESTRICTED RELEASE FOR BUILDING 816,
FROM U.S. ENVIRONMENTAL PROTECTION AGENCY,
DATED MARCH 28 AND MARCH 29, 2002
(17 pages)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

March 28, 2002

Supervisor Sophie Maxwell
City and County of San Francisco
City Hall, Room 244
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Re: Hunters Point Shipyard, Building 816

Dear Supervisor Maxwell:

It was a pleasure meeting with you and your staff last month. As you requested during that meeting, we are providing EPA's position regarding the former Naval Radiological Defense Laboratory (NRDL) building 816 located on the lowland portion of Parcel A, Hunters Point Shipyard.

According to Navy records, building 816 once contained a van de Graaf generator that used tritium targets. When the Navy ceased NRDL operations in 1969, the interior of building 816 was surveyed, cleaned and deemed safe for unrestricted reuse by the Atomic Energy Commission. In 1979, in accordance with Nuclear Regulatory Commission guidelines and using updated equipment and procedures, the Navy resurveyed building 816 and again confirmed that no measurable contamination was present. The Navy recommended that building 816 be released for unrestricted use.

In 1989, the Shipyard was placed on the Superfund National Priority List (NPL). EPA and the California Department of Health Services (DHS) requested that the Navy assess all former NRDL buildings to ensure that there was no residual radiation and that there were no releases to the environment - that is, to ensure that the exterior areas surrounding these buildings did not have contamination. In May 1993, the Navy conducted an investigation and determined that there was no radiation contamination associated with building 816. In a memorandum dated August 26, 1993, EPA's radiation expert Mr. Steve Dean concurred with the Navy's results for Building 816. EPA concluded that there were no risks to human health or the environment from radiation at building 816 and that no further action was required under Superfund. In August 1993, DHS conducted an independent soil sampling activity to confirm the Navy's results at building 816. In a letter dated November 24, 1993, DHS also officially concurred with the Navy's sampling program and their conclusions.

DHS has regulatory authority over private property in California where there has been radiological material. While Parcel A is currently Federal property, the Navy intends to transfer Parcel A to the City of San Francisco. In a letter dated August 9, 2001, the Navy requested concurrence from DHS that building 816 was suitable for unrestricted release. On August 24, 2001, DHS submitted their written concurrence to the Navy and stated " DHS has concluded that with respect to radiological issues, building 816 in Parcel A at Hunters Point Shipyard is suitable

for unrestricted release." The Navy has therefore secured DHS release of building 816 while it is still under Federal jurisdiction, eliminating any potential impediments to reuse once ownership is transferred to the City of San Francisco.

EPA maintains its previous position, that there are no risks to human health or the environment from radiation at building 816. I hope that this letter addresses your concerns regarding building 816. For your information, I am attaching copies of the pertinent correspondence regarding building 816 as discussed above to this letter. If you have any additional questions, please contact me at 415-972-3013.

Sincerely,

Claire Trombadore

Claire Trombadore
Remedial Project Manager

Attachments

State of California

Department of Health Services

Memorandum

Attachment 1

Date: August 24, 2001

To: Mr. Stan Phillippe, Chief
Office of Military Facilities
Department of Toxic Substances Control (DTSC), Region 2
400 P Street
Sacramento, California 95812

From: Environmental Management Branch
P.O. Box 942732
601 North 7th Street, MS 396
Sacramento, California 94234-7320
(916) 445-0498

Subject: Release of Building 816, Parcel A at Hunters Point Shipyard

Upon the request of The Department of Toxic Substance Control (DTSC), DHS reviewed radiological issues associated with Building 816, Hunters Point Shipyard. DHS has actively participated in review of site documentation and performed site visits. DHS has reviewed the information provided by the Department of the Navy in a letter and attached documents dated August 9, 2001 from Mr. Richard Mach, BRAC Environmental Coordinator. DHS had some further questions, which were directed, to the Navy's Radiological Affairs Support Office (RASO). These questions were adequately answered by way of e-mails which will be maintained in our files. Based on this review, DHS has concluded, that with respect to radiological issues, Building 816 in Parcel A at Hunters Point Shipyard is acceptable for unrestricted release.

If you need further assistance please contact Deirdre Dement of my staff at (916) 324-2209.

Jack McGurk, Chief

cc: Mr. Chein Kao
Office of Military Facilities
Department of Toxic Substances Control (DTSC), Region 2
700 Heinz Avenue, Suite 200
Berkeley, California 94710

Post-it® Fax Note 7671	Date 9/24	# of pages ▶ 2
To Claire Trombadore	From Chein Kao	
Co./Dept.	Co.	
Phone #	Phone # 510-540-3822	
Fax # 415-744-1946	Fax #	

09/24/01 MON 12:12 [TX/RX NO 7394]

Mr. Richard Mach, Jr.
BRAC Environmental Coordinator
Department of the Navy
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190

Ms. Deirdre Dement
Department of Health Services
P.O. Box 942732
601 N. 7th Street, MS 396
Sacramento, CA 94232-7320

DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

Attachment 2
SFUND RECORDS CTR
3033-00744 w/out enclosures

5090
Ser 06CH.RM/0747
August 9, 2001

Ms. Dierdre Dement
601 N. 7th Street, MS 396
P.O. Box 942732
Sacramento, CA 94234-7320

Dear Ms. Dement:

Enclosures (1) through (5) are provided for your review regarding the radiological surveys performed at Building 816, Parcel A, Hunters Point Shipyard. The Navy's Radiological Affairs Support Office (RASO) has reviewed this information and recommends that this building is suitable for unrestricted release. Please review this information and provide a comment or concurrence letter to me by August 23, 2001.

Should you have any concerns with this matter, please contact me at (619) 532-0913.

Sincerely,

RICHARD G. MACH JR., P.E.
BRAC Environmental Coordinator
By direction of the Commander

Enclosure 1. Health Physics Activities in Connection with the Disestablishment of NRDL: Disposal of Radioactive Material and Termination of AEC Licences, letter and attachment, January 8, 1970
2. Investigation of Tritium in Surface Soils and Paving Materials Surrounding Building 816, May 17-18, 1993
3. Hunters Point Annex (HPS) radiation Technical Meeting Minutes for meeting held on July 7, 1993
4. Hunters Point Annex (HPS) radiation Technical Meeting Minutes for meeting held on October 4, 1993
5. Hunters Point Naval Shipyard, Radiological Screening Investigation, Special Report, May 2001

Ms. Christine Shirley
833 Market St., #1107
San Francisco, CA 94103

Mr. Robert J. Hocker, Jr.
Mr. Marcos Getchell
Ms. Elizabeth McDaniel
Four Embarcadero Center, Suite 1700
San Francisco, CA. 94111

Ms. Carol Coon
Government Information Center, 5th Floor
100 Larkin Street
San Francisco, CA 94102

Anna E. Waden Library
5075 Third Street
San Francisco, CA 94124

Mr. Mike Wanta
135 Main Street Suite 1800
San Francisco, Ca 94105

Mr. Bill Breedlove
4005 Port Chicago Highway
Concord, CA 94520

Mr. Ronald Keichline (w/o Encl)
1230 Columbia Street Suite 400
San Diego, CA 92101

Mr. Keith Tisdell
613 La Salle Avenue
San Francisco, CA 94124

Ms. Caroline Washington
137 Atoll Circle
San Francisco, CA 94124

Ms. Marie Harrison
4908 Third Street
San Francisco, CA 94124

Copy to:

Mr. Michael Work (SFD-8-3)
Ms. Claire Trombadore (SFD 8-3)
Mr. Steve Dean (SFD 8)
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Mr. Chein Kao
Ms. Eileen Hughes
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710

Mr. Michael Rochette
California Regional Quality Control Board, San Francisco Bay Region
1515 Clay Street, #1400
Oakland, CA 94612

Ms. Karla Brasaemle
530 Howard street Suite 400
San Francisco, CA. 94105

Ms. Amy Brownell
1390 Market St., Suite 910
San Francisco, Ca 94102

Mr. Don Capobres
770 Golden Gate Avenue
San Francisco, CA 94102

Ms. Rona Sandler
City Hall, Room 234
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4682

Mr. Gregg Olson
1155 Market Street, 4th Floor
San Francisco, CA 94103

Attachment 3

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY

PETE WILSON, Governor

DEPARTMENT OF HEALTH SERVICES
714/744 P STREET
P.O. BOX 942732
SACRAMENTO, CA 94234-7320

(916) 445-0498

November 24, 1993

Ms. Barbara Smith
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612

Dear Ms. Smith:

The Department of Health Services conducted an independent tritium soil sampling activity to confirm the results of the analysis by the Navy around Building 816 at Hunters Point. Enclosed are the details of the sampling activity and the results of the analysis.

Based on these results, we confirmed that the tritium sampling program of the Navy surrounding Building 816 at Hunters Point is satisfactory.

If you have any questions concerning this letter, please telephone me at (916) 322-2183.

Sincerely,

Steven A. Book, Ph.D.
Special Assistant
Environmental Radiation Programs
Division of Drinking Water and
Environmental Management

Enclosure

cc: Cyrus Shabahari, DTSC
John Adams, SWB
Mike McClelland, WESTDIV
Steve Dean, EPA:R9
Fil Fong, RHB-B
Norris J. Parks, SRL-B

Department of Health Services Confirmatory Soil Sampling Around Building 816 at Hunters Point Annex

On August 13, 1993 the Department of Health Services conducted confirmatory soil sampling for tritium around Building 816 at Hunters Point Annex. Observers at the sampling were Dean Chaney, USNRC Region V, and Michael McClelland, USN WESTDIV.

Prior to collecting any soil, the immediate area surrounding each sampling point was surveyed with the Ludlum Micro R Meter, Model 19, S/N 80382. This meter was last calibrated 2/12/93 and the next calibration date will be 2/12/94. The purpose of this survey was to assure the sample will not contain unreasonable gamma emitting material (natural or manmade) which might influence the radioanalysis. This survey showed no sampling point had a reading greater than 10 uR/hr and the readings were between 5-10 uR/hr.

The soils were collected with with a garden trowel and deposited into a screw cap glass container. Each filled glass container was marked, placed into a plastic bag and the bag tapped sealed. After each sample the trowel was rinsed with clean tap water and tissue dried.

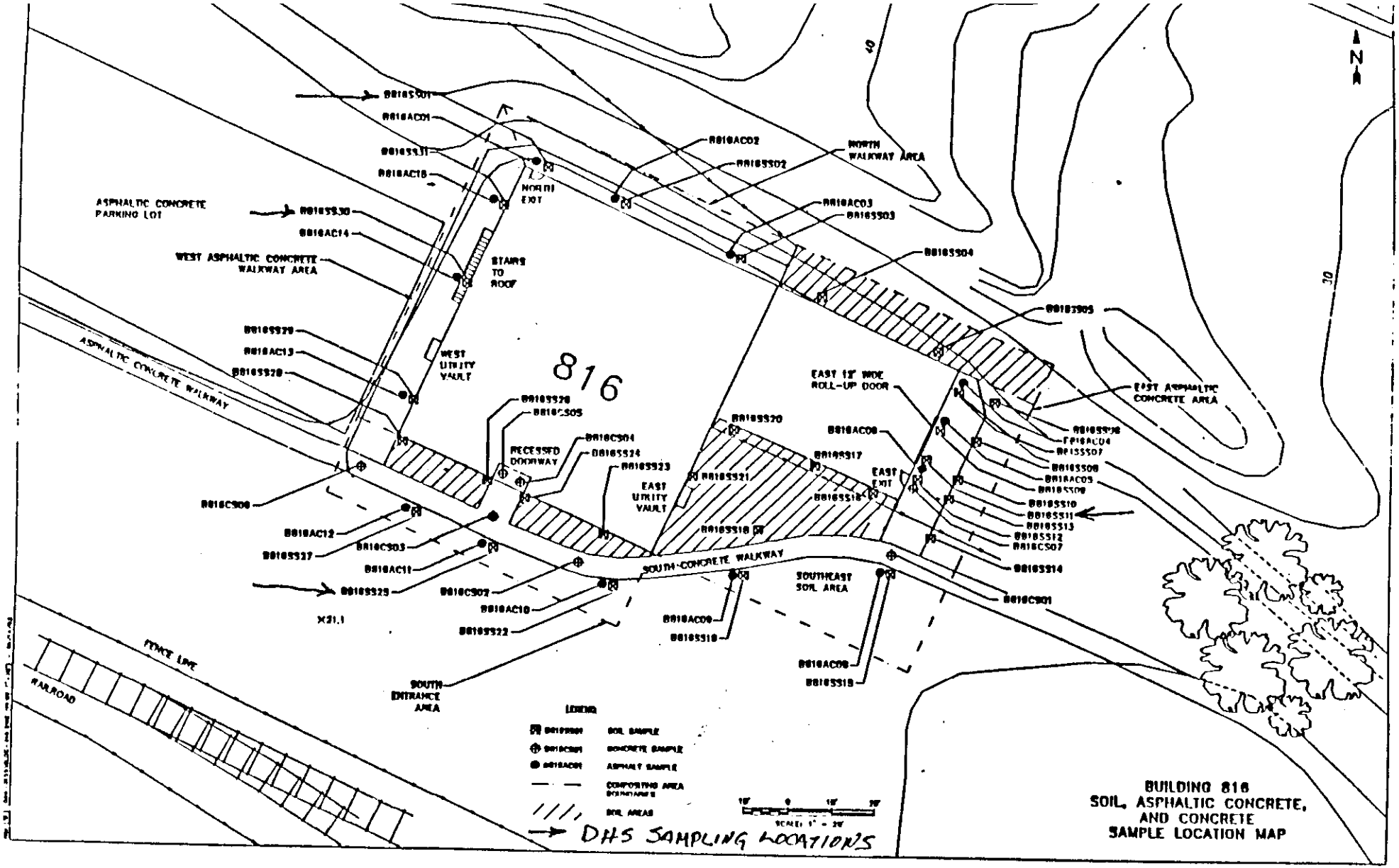
A background soil sample was selected about 25 yards south of Building 816. The soil sampling points selected were the sampling points previously sampled by the Navy. The Navy identification numbers were confirmed by map and the painted number by the disturbed ground. The samples were collected after removing the asphalt/concrete and large rocks from the sample point. After the collection the sampled openings were replaced with the asphalt/concrete and large rocks.

The samples and the description of the samples were as follows: The attached map detailed the locations of the sampled points.

Sample Id	Description	Navy Id
70102	Background	Not Applicable
70103	Southeast	B816SS11
70104	North	B816SS01
70105	Northwest	B816SS30
70106	South	B816SS25

The soil samples were taken to the Department of Health Services, Sanitation and Radiation Laboratory, Berkeley, for tritium analysis on August 13, 1993 about 2:00 PM

Filbert Fong
Health Physicist


N
816
NORTH WALKWAY AREA
NORTH EXIT
ASPHALTIC CONCRETE PARKING LOT
WEST ASPHALTIC CONCRETE WALKWAY AREA
STAIRS TO ROOF
ASPHALTIC CONCRETE WALKWAY
WEST UTILITY VAULT
RECESSED DOORWAY
EAST UTILITY VAULT
EAST 12' WIDE ROLL-UP DOOR
EAST EXIT
EAST ASPHALTIC CONCRETE AREA
SOUTH CONCRETE WALKWAY
SOUTHEAST SOIL AREA
SOUTH ENTRANCE AREA
FENCE LINE
RAILROAD
X21.1
LEGEND
SOIL SAMPLE
CONCRETE SAMPLE
ASPHALT SAMPLE
COMPOSITING AREA BOUNDARIES
SOIL AREAS
SCALE: 1" = 20'
DHS SAMPLING LOCATIONS
BUILDING 816
SOIL, ASPHALTIC CONCRETE, AND CONCRETE
SAMPLE LOCATION MAP

Department of Health Services *Radiochemistry Unit* Sanitation and Radiation Laboratory

FAX
(916) 324 1380

(510) 540 2515

Memorandum

Date: September 29, 1993

To: Mr. Fil Fong
Environmental Management Branch
Department of Health Services

From: Norris J. Parks, Ph.D.
Research Radiochemist
Radiochemistry Unit/SRLB

Subject: Hunter's Point Assays for Samples SS-11,SS-01, SS-30, SS-30, SS-25

The Radiological Analyses Results form from the Radiochemistry Unit; SRLB is appended. There are no indications of excess Tritium beta activity over natural background. The average values from duplicate assays of soil samples were all less than the average reagent blank values. The values are all below the LLD_{95} value of 2.35 pCi/g for this dry soil method. Positive controls (spiked samples) showed that at least 89% of any ^{3}H present would have recovered and detected if present in excess of the LLD_{95}.

RADIOLOGICAL ANALYSES
RESULTS

Sampling Location:	Hunters Point Annex
Sampling Date/Time:	August 13, 1993
Sample Type:	soil
SRL Number:	6555 to 6559
R Number:	70102 to 70106
Date Received:	August 13, 1993
Contact:	Fil Pong, EMB 916-324-1878

Sample	Description	Analysis	Result (pCi)	Isotope
6555-93	background/South bldg 816 HPA	LSC	-0.10 ± 1.44	H-3
6556-93	SS-11	"	-0.17 ± 1.44	H-3
6557-93	SS-01	"	-0.49 ± 1.44	H-3
6558-93	SS-30	"	-0.28 ± 1.44	H-3
6559-93	SS-25	"	-0.81 ± 1.47	H-3

The results are comparable to the laboratory background soil, which was analyzed with the samples.

The lower level of detection for this analysis was 2.38 pCi/g.

Attachment 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105-3901

September 8, 1993

Raymond E. Raymos
Base Closure Team
Western Division
Naval Facilities Engineering Command
San Bruno, CA 94066-2402

Dear Mr. Raymos:

Enclosed are comments on Appendix G, Building 816 Tritium Radiation Investigation, of the Draft Parcel A Site Inspection (SI) Report, dated July 30, 1993. These comments should be included with the other Draft Parcel A SI Report comments I sent to you yesterday; I inadvertently left them out. If you have any questions regarding these comments, please call Mr. Steve Dean, Environmental Scientist, directly at 744-1045.

Sincerely,

Roberta Blank
Remedial Project Manager

Enclosure: 2 pages

cc: Bill Radzevich, WestDiv
Mike McClelland, WestDiv
Cyrus Shabahari, DTSC
Barbara Smith, RWQCB
Jim Sullivan, NSTI
Amy Brownell, SFPHD
Gary Welshans, PRC

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105-3901

MEMORANDUM

DATE: August 26, 1993

FROM: Steve M. Dean
Environmental Scientist, ORIA, (A-1-1)

TO: Roberta Blank
Remedial Project Manager, FEB, (H-9-2)

SUBJECT: Building 816 Tritium Study

After reviewing the report titled "Investigation of Tritium in Surface Soils and Paving Materials Surrounding Building 816" I am satisfied that tritium can be ruled out as a potential radiation hazard to the public as a result of activities in this building. Since tritium is as mobile as water, in most cases, there was little chance that detectable levels would be present 14 years or so later.

There are several points in the report on which I would like to comment:

Page 10, paragraph 2: "the most probable route of entry into the body at this site is by ingestion of soils or vegetation."

Page 11, paragraph 2: "At building 816, it was determined that ingestion of tritium in soils and paving materials would be the primary exposure pathway."

In my opinion, ingestion of soil, vegetation, and paving materials would **not** be the dominant exposure pathway for tritium. The most probable exposure pathway would be inhalation from tritium volatilizing as water vapor from the soil or concrete into the air. Had tritium been detected in any of the samples the Risk Assessment Guidance for Superfund Human Health Evaluation Manual Part B would have been a more appropriate choice for determining the risk to the public than ICRP (1975).

The drinking water MCL is frequently used as an ARAR when discussing tritium contamination. The MCL for tritium is currently 4 mrem per year which in turn is defined as 20,000 pCi/liter. However, to apply this ARAR to this study it would have to be considered 20,000 pCi/liter of soil, vegetation, or paving material moisture.

However, since no tritium was found at Building 816 a detailed discussion of the Relevant Regulatory Requirements is unnecessary in this report.

The samples' moisture content also raises another issue:

During a phone conversation this morning with Dr. Dinkar Kharkar of TMA/Norcal he said that none of the samples had sufficient moisture to generate 10 milliliters of water per sample necessary for the scintillation analysis. Consequently, 10 mls of deionized water were added to each sample before the azeotropic distillation was performed. Thus, the procedure was more like a water extraction than a distillation of sample moisture. This addition to the lab procedure should be mentioned in this report.

One final comment:

Page 9, footnote a: "Reported value is less than the negative of its 2 sigma counting error."

This is not the best way to report this data. A better explanation of this footnote is required, and also, reporting negative values does not give the data much credibility when reviewed by the general public.

If you have any questions or comments please do not hesitate to call me at 4-1045. Thank you.

cc: Michael Bandrowski, Director, ORIA

Steve Dean
03/29/2002 11:46 AM

To: Claire Trombadore/R9/USEPA/US@EPA
cc: Michael Work/R9/USEPA/US@EPA
Subject: Building 816 Data Packet Review Comments

March 29, 2002

MEMORANDUM

SUBJECT: Building 816 Data Packet Review Comments

FROM: Steve M. Dean (SFD-8-B)
Superfund Technical Support Team

TO: Claire Trombadore (SFD-8-3)
DOD and Pacific Islands Section

I have completed my review of the package of survey and decommissioning data for Building 816 at Hunters Point Naval Shipyard. I would like to reiterate my position in a memorandum to Roberta Blank in May of 1993. **There is no threat to the environment or to the health and safety of humans from residual tritium (H3) contamination in or around Building 816.**

To help emphasize this point I have performed a radiological cancer risk assessment based on the highest reported value (0.49 picoCurie per gram) for residual H3 found in soil, asphalt or concrete samples. These samples were collected in a joint effort by the Navy and California Department of Health Services (CaDHS) around Building 816 in 1993 as part of the building's close out investigation. I based the risk assessment on the Residential Soil Scenario with the following default perimeters; 30 years exposure duration, 350 days per year and 24 hours per day exposure frequency. This was a very health protective approach.

The resulting cancer incidence risk is 4.4 E-11 or 44 additional cancers in a population of one trillion people providing that the entire population lived on that highest sampling location 24 hours per day for 350 days per year for 30 years. One trillion people is not only greater than the earth's current human population of approximately 6 billion people but is greater than the entire human population to have ever lived (less than 20 billion) on this planet. The risk from H3 is orders of magnitude below Superfund's Point of Departure of one excess cancer in a population of one million.

Based on radiological considerations Building 816 is safe for unrestricted use. If you have any questions or comments please contact me at (415) 972-3071.

Attachment

RESIDENTIAL SOIL
RISKCALC Version 4.2
RADIONUCLIDE RISK ASSESSMENT
Performed by Steve M Dean

03-29-2002 10:31:04

SAMPLE ID: Building 816 outside

SITE NAME: HPNS

COMMENTS:

RADIONUCLIDE OF CONCERN: H3

INGESTION SLOPE FACTOR	=	7.2E-14 Risk/pCi
INHALATION SLOPE FACTOR	=	9.6E-14 Risk/pCi
EXTERNAL EXPOSURE SLOPE FACTOR	=	0.0E+00 Risk/yr per pCi/Gram

RADIONUCLIDE CONCENTRATION: .49 pCi/Gram

RESIDENTIAL SOIL Risk Assessment with DEFAULT SCENARIO FACTORS

INGESTION RISK =	4.4E-11
PARTICULATES RISK =	7.5E-15
EXTERNAL EXPOSURE RISK =	0.0E+00
TOTAL RISK =	4.4E-11

Risk-based PRELIMINARY REMEDIATION GOAL is 1.1E+04 pCi/Gram

RESIDENTIAL SOIL SCENARIO FACTORS	DEFAULT	SELECTED
Exposure Frequency (days/year)	350	350
Exposure Duration (yrs)	30	30
Daily Air Inhalation Rate (m^3/day)	20	20
Daily Soil Ingestion Rate (mg/day)	50	50
Particulate Emission Factor (m^3/kg)	1.32E09	1.32E+09
Gamma Shielding Factor (attenuation)	0.20	.2
Gamma Exposure Time Factor (hrs/24hrs)	1.0	1
Age-Adjusted Soil Ingestion Factor (mg-yr/day)	3600	3600

This program calculates risk assessment based on 'Risk Assessment Guidance For Superfund: Volume 1 - Human Health Evaluation Manual (Part B, Development of Risk-based Remediation Goals)': Interim Final, OERR Washington DC, EPA/540/R-92/003, December 1991.

Slope factors used for the pathway risk calculations are taken from Health Effects Assessment Summary Tables (HEAST): Annual Update, May 31, 1995.

ATTACHMENT 9
MEMORANDUM OF UNRESTRICTED RELEASE FOR BUILDING 821, DATED NOVEMBER 15, 2002

State of California

Department of Health Services

Memorandum

Date: November 15, 2002

To: Mr. Stan Phillipe, Chief
Office of Military Facilities
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826-3200

From: Environmental Management Branch
P.O. Box 942732
601 North 7th Street, MS 396
Sacramento, California 94234-7320
(916) 324-2209

Subject: Release of Building 821 at Hunters Point Naval Shipyard

Upon the request of The Department of Toxic Substance Control (DTSC), the Department of Health Services (DHS) reviewed the document, *Survey Plan and Survey Results, Building 821, Parcel A, Hunters Point Shipyard, San Francisco, California.* This documentation contained the radiological history of Building 821, including the sampling and survey results from a radiological survey performed in June 2002. The document provided indicates that radiological material was never used or stored in Building 821 thus contamination did not occur. Based on this review and a confirmation survey performed by DHS, DHS has concluded that radiological contamination did not occur. Therefore, Building 821 is acceptable for unrestricted release.

If you need further assistance please contact Darice Bailey of my staff at (916) 324-2209.

Jack S. McGurk, Chief

cc: Mr. Chein Kao
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200

Mr. Keith Forman
Department of the Navy
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

Ms. Deirdre Dement
PO Box 942732
601 N. 7th Street MS 396
Sacramento, CA 94234

ATTACHMENT 10
MEMORANDUM OF UNRESTRICTED RELEASE FOR BUILDING 322, DATED AUGUST 27, 2004

State of California Department of Health Services

Memorandum

Date: August 27, 2004

To: Mr. Rick Moss, Chief
Office of Military Facilities
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826-3200

From: Environmental Management Branch
1616 Capitol Avenue, 2nd Floor
MS 7404
P.O. Box 997413
Sacramento, CA 95899-7413
(916) 449-5664

Subject: Release of Base Realignment and Closure (BRAC) property (Building 322) at Hunters Point Shipyard, San Francisco, California

Upon the request of The Department of Toxic Substance Control (DTSC), the Department of Health Services (DHS) reviewed documents regarding Building 322 at the Hunters Point Shipyard. This documentation indicated that the buildings met the Federal radiological release criteria. Therefore, the BRAC property is acceptable for unrestricted release.

If you need further assistance please contact me at (916) 449-5664.

Darice G. Bailey, Chief
Waste Management Section

cc: Mr. Tom Lanphar
Office of Military Facilities
Department of Toxic Substances Control (DTSC), Region 2
700 Heinz Avenue, Suite 200
Berkeley, California 94710

Mr. Keith Forman
Southwest Division
1220 Pacific Highway
San Diego, CA 92132-5190

DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132-5190

5090
Ser 06CH.KF/0406
September 1, 2004

Mr. Michael Work (SFD 8-3)
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Mr. Tom Lanphar
Department of Toxic Substances Control
700 Heinz Avenue, Bldg. F, Suite 200
Berkeley, CA 94710

Mr. Jim Ponton
California Regional Water Quality Control Board, San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear BCT members:

Enclosure (1) is the Draft Final Finding of Suitability to Transfer for Parcel A (Revision 3), Hunters Point Shipyard. Please provide a letter concurring with the Finding of Suitability to Transfer Parcel A no later than September 30, 2004. Please note that Attachment 9 contains the California Department of Health Services letter, dated August 27, 2004, which releases the former Building 322 site for unrestricted reuse. The document contains very few changes compared to Revision 2; if concurrence letters can be provided prior to September 30, it would be greatly appreciated.

Should you have any concerns with this matter, please contact Mr. Keith Forman at (619) 532-0913, or Mr. Patrick Brooks at (619) 532-0930.

Sincerely,

G. Patrick Brooks

G. PATRICK BROOKS
Lead Remedial Project Manager
By direction of the Commander

5090
Ser 06CH.KF/0406
September 1, 2004

Enclosure (1) Draft Final Finding of Suitability to Transfer for Parcel A (Revision 3) Hunters Point Shipyard, September 1, 2004

Ms. Elaine Warren
Office of City Attorney
City Hall, Room 234
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4682

Ms. Amy Brownell
Department of Public Health
1390 Market Street, Suite 910
San Francisco, CA 94102

Mr. Marcos Getchell
Sheppard, Mullin, Richter, Hampton
Four Embarcadero Center, Suite 1700
San Francisco, CA 94111

Ms. Diane Silva (3 Hard Copies Only)
1220 Pacific Highway
San Diego, CA 92132

Mr. David Rist
Department of Toxic Substances Control
700 Heinz Avenue, Bldg. F, Suite 200
Berkeley, CA 94710

Mr. Richard Sherwood
Department of Toxic Substances Control
400 "P" Street, Box 806
Sacramento, CA 95814

Ms. Karla Brasaemle
Tech Law, Inc.
90 New Montgomery Street, Suite 1010
San Francisco, CA 94105

Ms. Dorinda Shipman
Treadwell & Rollo
555 Montgomery Street, Suite 1300
San Francisco, CA 94111

Mr. Keith Tisdell (Hard Copy Only)
c/o Francisco Da Costa
4909 Third Street
San Francisco, CA 94124

Mr. Robert Carr
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Mr. Curtis T. Scott
Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Copy to: (CD only)

Mr. David Wilkins
Lennar/BVHP
49 Stevenson Street, Suite 525
San Francisco, CA 94105

Mr. Lynne Brown
24 Harbor Road
San Francisco, CA 94124

Mr. Don Capobres
S.F. Redevelopment Agency
770 Golden Gate Avenue, 3rd Floor
San Francisco, CA 94102

Ms. Lea Loizos
Arc Ecology
833 Market Street, Suite 1107
San Francisco, CA 94103

Mr. Maurice Campbell
1100 Brussels Street
San Francisco, CA 94134

Mr. Gordon Hart
Paul Hastings
55 2nd Street, 24th Floor
San Francisco, CA 94104

Ms. Barbara Bushnell
6 Vistaview Court
San Francisco, CA 94124

Mr. Stan DeSouza
Department of Public Works
1680 Mission Street, First Floor
San Francisco, CA 94103-2414

Ahimsa Sumchai Porter, M.D.
236 West Portal Avenue, Apt. 563
San Francisco, CA 94127

Ms. Julia Vetromile (w/o Encl)
Tetra Tech EMI
135 Main Street, Suite 1800
San Francisco, CA 94105

Ms. Jaque Forrest
CH2M Hill
155 Grand Avenue, Suite 1000
Oakland, CA 94612

Ms. Rona Sandler
Office of City Attorney
City Hall, Room 234
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4682

Ms. Kevyn Lutton
1411 Oakdale Avenue
San Francisco, CA 94124

Ms. Nicole Franklin
S.F. Redevelopment Agency
770 Golden Gate Avenue, 3rd Floor
San Francisco, CA 94102

Mr. Michael Cohen
Mayor's Office of Economic Development
City Hall, Room 448
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4682